WESTERN FOREST PRODUCTS INC.

Sustainable Forest Management Plan (SFMP)

Stillwater Forest Operation (SFO), TFL 39 Block1

Indicator Results
including 2021

Last Updated: May 2022

Table of Contents

List of Figures

Introduction

About the SFM Plan

The Sustainable Forest Management (SFM) Plan outlines a series of performance indicators in accordance with the CSA Z809-16 standard. The SFMP supplements and reports on existing management plans and regulatory requirements (Figure 2). WFP updates the SFM Plan with the annual progress made.

British Columbia has rigorous legislation and policies for protection, conservation, and sustainable management of forests. This legislative framework is being continuously improved, as is forest management and policy. In addition to applying regulatory tools, WFP benefits from using voluntary tools, such as CSA certification, to aid in the achievement of sustainable forest management (SFM).

The SFM Plan includes this introductory overview and four main sections:

Section 1: The Defined Forest Area (DFA) – this section provides a description of DFA.

Section 2: Forecasting Alternative Strategies – this section provides a summary of alternate strategies discussed with the Community Advisory Group when developing Values, Objectives, Indicators, and Targets.

Section 3: Acronyms used in this document – this section provides a summary of acronyms and terms used in the plan.

Section 4: SFM Criteria, Values, Objectives, Indicators, Targets (VOITS) and Annual Performance Reporting – this section lists each indicator in the SFM Plan, and provides the detailed rationale for selection, target, variance, history of the indicator, timelines for improvement, the current status, reporting and monitoring procedures, forecasts, and the assumptions and analytical methods. The latest indicator results are also summarized including any missed targets, reasons why targets may not have been achieved, and any related corrective action required.

The CSA Standard

CSA is based on the most broadly accepted Canadian forest values generated to date as embodied in the Canadian Council of Forest Ministers (CCFM) SFM criteria and elements. The CCFM SFM criteria and elements are fully consistent with those of the UNCED Montréal and Helsinki processes, which are both recognized by governments around the world. WFP is required to work closely with the public to identify local values, objectives, indicators, and targets that reflect the national criteria and to incorporate them into forest management planning and practices. Decisions are made together with the public during this process. CSA Z809 is more than a system standard; it is also a performance standard, and it also sets specific requirements for the public participation process. This approach to performance not only respects government-recognized criteria for SFM but also allows the public to participate in the interpretation for the local forest.

The 2016 edition is the forth edition of CSA Z809 (CSA Z809-16), Sustainable forest management standard. It supersedes the previous edition, published in 2008 under the title “Sustainable Forest Management: Requirements and Guidance” and the previous edition published in 2002.

The standard is available at:

http://shop.csa.ca/en/canada/sustainable-forest-management/z809-16/invt/27017442016

Changes in the 2016 standard are summarized here:

http://www.csasfmforests.ca/resources.htm

Public and Aboriginal Involvement

The CSA Standard was first published in 1996, following years of discussion and work, using an open and inclusive process managed by the CSA to define the standard. In 2000, the CSA set out to review and improve upon the original Standard, and again sought and incorporated public input into the 2002 edition. Revision of the 2002 edition, in turn, was initiated in 2004 with input from existing public advisory groups and Aboriginal representative incorporated into the 2008 edition.

Under the standard, Western Forest Products is required to seek comprehensive, continuous public participation and work with Aboriginal peoples at the local community level. The public identifies forest values of specific importance to environmental, social, and economic concerns and needs. The public, represented largely by a local public advisory group, also takes part in the forest planning process and works with WFP to ensure that targets and values are addressed. The public participation requirement is one of the most rigorous of its kind in certification standards in the world today. Because Canadian forests are primarily publicly owned, it was seen as vital that Canadian forest certification extensively involve the public. Forest management that meets the CSA SFM requirements involves a positive relationship between the organization and the local community.

Local Community Advisory Group

The local public advisory group, referred to as the Stillwater Forest Operation Community Advisory Group (CAG), was formed in the spring of 2000. It consists of a representative matrix of a diversity of members from the local community. Member seats and who they are filled by are listed and kept up to date on cagstw.org. Together, this group and Western Forest Products continue to develop the SFM performance framework that is incorporated in this SFM Plan. CAG operates under a Terms of Reference in accordance with the CSA requirements. This process is open, inclusive and responsive.

First Nations Involvement

First Nations' peoples are provided opportunity and are encouraged to contribute their knowledge and input into the process of setting the objectives in this SFM Plan. WFP provides agendas and the minutes of CAG meetings related to the SFM Plan to facilitate awareness and the CAG regularly invites First Nations' peoples to participate in the CSA process. This is not considered involvement in the process and is not consultation. First Nations information sharing with respect to the CSA certification is without prejudice to their aboriginal and treaty rights.

First Nations related indicators are located within Criterion #7 in the SFM Plan.

The SFM system recognizes that Canadian forests have special significance to Aboriginal peoples. It further recognizes that the legal status of Aboriginal peoples is unique and that they possess special knowledge and insights concerning sustainable forest management derived from traditional practices and experience. First Nations peoples are provided opportunity and are encouraged to contribute their knowledge and input into the SFM Plan process.

First Nations within the DFA include:

- Tla'amin First Nation
- Sechelt First Nation
- Klahoose First Nation

Adaptive Management and Annual Reporting

Ongoing community advisory group participation will provide opportunities for continual input, learning, improvement, and the resolution of issues that may arise in the implementation of the SFM Plan and the WFP SFM System. The adaptive management under Western's SFM System (Figure 1) ensures that the SFM Plan remains relevant and a product of continual improvement. This is ensured by annual review with CAG of the terms of reference, the WFP SFM annual results, and review of any recommendations for SFM Plan improvement, for example any recommendations arising from the annual audit process.

Setting Local DFA-Specific Performance Requirements

The Canadian Council of Forest Ministers (CCFM) developed generic national indicators (CAN/CSA Z808-96) as a starting point for consideration in developing indicators for a DFA. Since the original plan was developed, the continual improvement process has been conducted, and the SFM Plan has been updated to reflect the Z809-08 and Z809-16 standards and evolving Federal and Provincial legislation and policy. Section 4 records and summarizes the SFM work including the following:

- For each element, one or more DFA-specific values shall be identified;
- For each value, one or more objectives shall be set;
- For each value, one or more meaningful indicators shall be identified, including core and locally selected indicators. Indicators shall be quantitative where feasible.
- For each indicator, data on the current status shall be provided, and one appropriate target shall be set. Each target shall specify acceptable levels of variance for the indicator and clear time frames for achievement. A clear justification shall be provided for why the targets have been chosen;
- One or more (alternative) strategies shall be identified targets;
- The expected response of each indicator in relation to the target shall be described. Where analytical forecasts were used, the methods, assumptions, and limitations used for making the forecast shall also be described.
- During plan implementation, measurements shall be taken for each indicator at appropriate times and places. Measurement results shall be interpreted in the context of the forecasts in the SFM plan in an adaptive management process.

Z809-16 does not require CAG to work through all the content; it gives them the opportunity to do so. This is a fundamental shift recognizing the public's right to focus on what it finds of greatest interest to work on. The public's involvement has been expanded to include "management strategies", "review of the SFM Plan", and "issues of interest relevant to SFM on the DFA". The company still must address the values and elements the public chooses not to proactively engage in. The primary role of public participation is the development of VOITs for the DFA. Members of CAG are invited to identify areas where they feel improvement could be made upon indicators, for example. In many cases, specialists having experience with certain values are brought in to make presentations to CAG members and answer questions. However, they must be given the opportunity to perform all of the items above. WFP must determine which, if any, strategies or monitoring programs they want to assess, evaluate or design.

Performance Framework for the DFA: "VOITs"

In this SFMP, Section 4 lists the performance matrix for the DFA. For each indicator, a detailed description, forecast, and methods is included in this SFM Plan.

The local Values, Objectives, Indicators, Targets ("VOIT's"), and Acceptable Variances for each CSA Criteria and Element were developed during discussions between CAG and WFP staff starting in 2000 under a CSA Z809-96 process. The SFM Plan is a live document and has continued to evolve and improve over time through internal and external audits and changes to the CSA Z809 standard. The effects of the BC Bill 28 Forest Revitalization Act have also been incorporated into the plan, and a number of targets have been reduced to reflect the smaller area remaining in the DFA. Analysis units may be larger or smaller than the DFA.

Management Strategies describe means of achieving objectives and targets. The public advisory process includes review of the company's forest management strategies. Existing organizational and government policies that govern the conduct of forest management activities are described in the SFMP. Management strategies are drawn from the TFL Management Plan, Forest Stewardship Plans (e.g. Results and strategies), MF Management Commitment, Forest Practices Code, and the Forest and Range Practices Act. TFL 39 Management Plan 8 provides more detail, and is intended to be referenced as integral to this SFM Plan.

Alternative Strategies are reviewed with CAG, in relation to their forecasts, so that a preferred strategy can be selected. The management strategies are drawn from TFL 39 Management Plan 9 and Silviculture Strategy documents. These contain inventories, descriptions of current conditions, and Timber Supply Analyses describing several alternative management strategies and associated long term forecasts.

Monitoring methods and responsibilities for tracking indicator performance is described in the SFMP for each indicator. Adaptive management and continual improvement is the process by which the plan is monitored and improved. Stillwater Forest Operations (SFO's) performance against this plan is subject to on-going monitoring and annual review and assessment by SFO management and CAG. The monitoring and adaptive management process is described in Westerns SFM System manual. The latest Annual Report is referenced in Section 4.

Implementation Schedules (Action Plan Timelines), where appropriate, are specified at the indicator level. The schedule specifies the delivery dates for key outcomes. Not all indicators require an implementation schedule and therefore they are only specified when they are required.

Third-Party Independent Audits

To become certified to this Standard, WFP must undergo a third-party, independent audit to the SFM requirements in this Standard. A registrar (certifier), accredited by the Standards Council of Canada, conducts the audit. The individual auditors employed or contracted by the registrar have the requisite forestry expertise and are certified as environmental auditors. Audits to this Standard are done by accredited certifiers and certified auditors who are independent of the standards-writing body (CSA). In addition to the initial audit, there are mandatory annual reviews, which include both a document review and on-site checks of the forest to ensure progress is being made towards the achievement of targets and that the SFM requirements are being upheld. In addition, a full re-certification audit is required periodically following the initial certification.

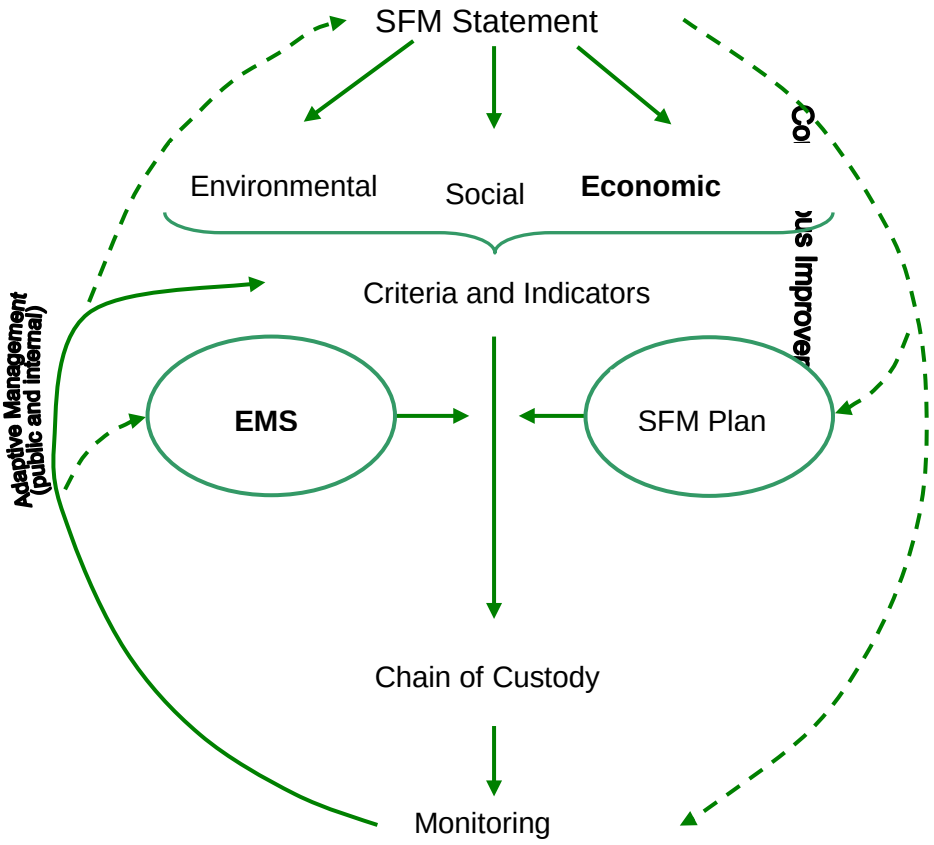
Sustainable Forest Management System

Westerns Sustainable Forest Management System (Figure 1) is described in WFP's Environmental Management System (EMS). Serving as the foundation, WFP's EMS was implemented and registered

under ISO 14001 certification in 1999, and has been re-registered in corresponding annual audits since then. Incremental upon this foundation is the incorporation of the SFM performance framework as described in the SFO SFM Plan. The SFO SFM System describes the adaptive management procedures and public advisory group process that WFP will follow to implement, review, and continually improve the SFM Plan.

The SFM System also includes a Chain of Custody (CoC) procedure, in accordance with the internationally recognized Programme for the Endorsement of Forest Certification schemes (PEFC) Annex 4 standard. Chain of Custody provides assurance that forest products being traded and sold as "certified" can be traced to forests certified to the Z809 standard or other PEFC recognized forest certifications. The process by which the WFP CoC is maintained by WFP Fibre Supply and no longer the responsibility of the Timberlands.

Figure 1: SFO Sustainable Forest Management (SFM) System



Reference Documents - Additional Clarification

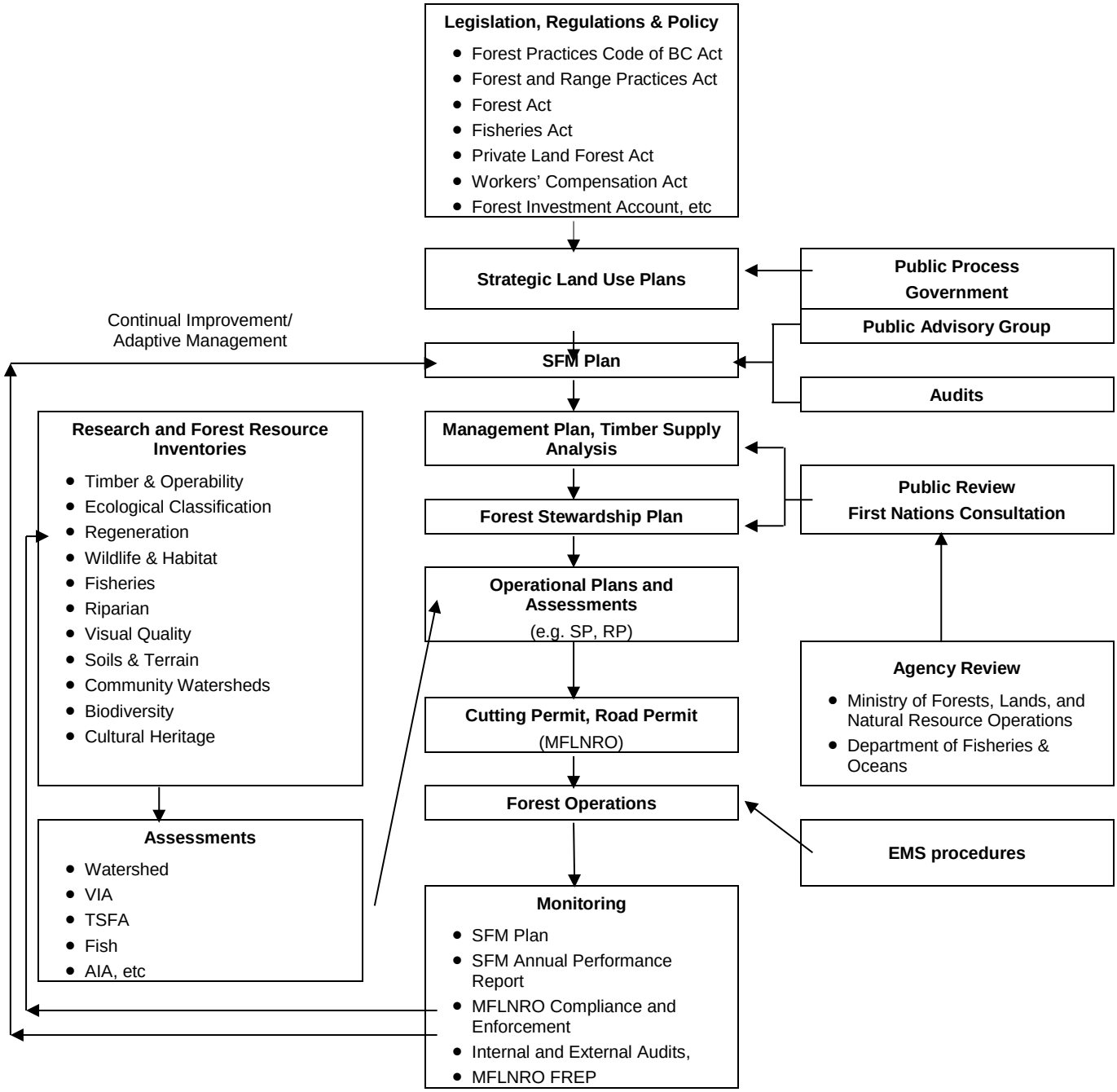
- CAN/CSA ISO 14001-2004 - Environmental Management Systems – Specification with guidance for use.
- CSA Plus 1133 (2nd Ed. Pub 2003) – Guidelines for Sustainable Forest Management Systems: General Audit Principles and Audit Procedures for Auditing Sustainable Forest Management Systems. Internal Audit procedures developed under Section 7.5.4 of the Standard- Internal Audits to the SFM Requirements- must conform to this guideline.
- CSA Plus 1134 (2nd Ed. Pub 2003) – Guidelines for Sustainable Forest Management Systems: Qualification Criteria for Sustainable Forest management Systems Auditors. Guiding document defining the criteria for internal auditors as required under Section 7.5.4 of the Standard- Internal Audits to the SFM Requirements
- CAN/CSA Z731-03 Emergency Response Planning for Industry. Key document for ISO 14001. Tool for developing procedures under section 7.47 – Emergency Preparedness and Response- of the Standard
- CSA Z764-96 (R2002) A Guide to Public Involvement. Defines how to build and effective public advisory committee.
- PEFC Annex 4 (Chain of Custody of Forest Based Products - Requirements), 2002:2013.

Links to Management Plans and Operational Plans

The following diagram demonstrates the links between the SFM Plan, operational planning, and existing Management Plans, in relation to the BC Forest Practices Code (FPC), Forest and Range Practices Act (FRPA) and their corresponding regulations.

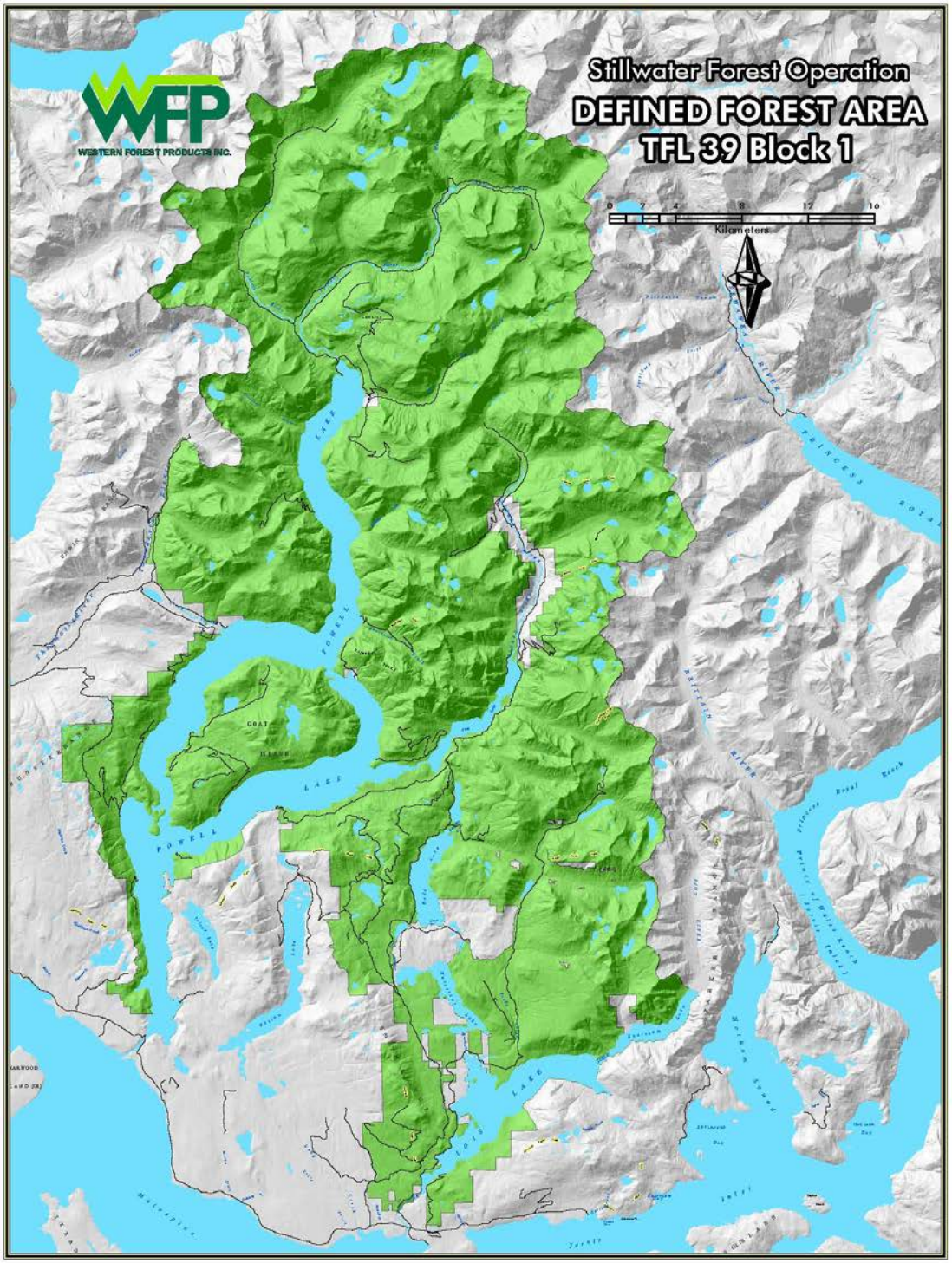
Figure 2 shows the flow of input and direction to operational plans, including Forest Stewardship Plans and Site Plans. It does not show the feedback loops of monitoring and adaptive management that occurs from operations to the management plans and other higher level plans.

Figure 2: Link between legislation and the SFM Plan



Section 1: The Defined Forest Area (DFA)

Figure 3: WFP Stillwater Forest Operation - CSA Defined Forest Area (DFA)



CSA Z809-16 Discussion Items

Many of the Z809-16 discussion items have been previously incorporated into CAG discussions and presentations when the Z809-08 Standard was developed. A ledger has been developed and is maintained illustrating linkages from discussion items to CAG meeting presentations and general topic discussions. The discussion items highlighted in yellow below are either new or require further presentation to the CAG.

The following discussion items are taken from the CSA Z809 Standard.

Criterion	Discussion Item	Status
1	forest habitat connectivity and conservation at the landscape level	Previously discussed under Z809-08
1	management in the context of natural disturbance regimes and patterns and the range of natural variation	Previously discussed under Z809-08
1	maintenance of populations and communities over time	Previously discussed under Z809-08
1	local and regional protected areas and integrated landscape management	Previously discussed under Z809-08
1	silvicultural regimes and practices such as integrated pest management and pesticide use, structural retention, and timber harvest practices (including clear-cutting)	Previously discussed under Z809-08
1	practices to limit the spread of invasive alien species, and the regulatory prohibitions related to adverse ecological effects and the use of exotic tree species	Previously discussed under Z809-08
1	management and protection of biological resources of cultural heritage significance	Previously discussed under Z809-08
1	management of cultural values and resources	Previously discussed under Z809-08
1	locally available processes and methods for identifying sites with special biological and cultural significance	Previously discussed under Z809-08
1	conservation of old-growth forest attributes	Previously discussed under Z809-08
1	participation in government programs to protect threatened and endangered species	Previously discussed under Z809-08
1, 3	role and importance of wetlands	NEW: discussed under Z809-16 Oct 2017.
2	climate change impacts and adaptations	Previously discussed under Z809-08
2	trends in natural and human-caused disturbances	Previously discussed under Z809-08
2	proportion of naturally disturbed area that is not salvage harvested	Previously discussed under Z809-08
2	biomass utilization	Previously discussed under Z809-08

3	soil productivity	Previously discussed under Z809-08
3	sensitive sites	Previously discussed under Z809-08
3	soil disturbance prevention and mitigation measures	Previously discussed under Z809-08
3	site rehabilitation in areas of severe soil disturbance	Previously discussed under Z809-08
3	water quality and quantity in watersheds supplying domestic water	Previously discussed under Z809-08. Discussed at November 13th, 2018 meeting.
3	management practices and regulatory requirements that conserve water and soil	Previously discussed under Z809-08
4	carbon emissions from fossil fuels used in forest operations	Previously discussed under Z809-08
4	role of forest ecosystems and their management in the global carbon cycle	Presentations on the carbon cycle by Marie-Eve Leclerc on January 13, 2021, October 16, 2021 and December 8, 2021.
5	Benefits for local communities and Aboriginal Peoples (cultural, spiritual, economic, health, etc.)	Previously discussed under Z809-08
5	fair distribution of benefits and costs	Previously discussed under Z809-08
5	proportion of goods and services sourced from local communities (to the extent that they are available and reasonably cost-competitive)	Previously discussed under Z809-08
5	the significant vulnerabilities for community sustainability linked to forest and timber supply conditions over time	Presentation by Murray Hall on March 13, 2019. Discussion on both Coastal and Interior challenges related to fibre supply and community stability overtime. Presentation by Dr. John Innes, Dean of the Faculty of Forestry UBC. The State of British Columbia's Forests: A Global Comparison.

WFP's Stillwater Forest Operation

The Defined Forest Area corresponds to the boundaries of TFL 39, Block 1. As per Management Plan #9, the productive land base within the DFA is 69,104 hectares, the non-productive land base is 49,412 hectares, and the total non-forested landbase is 35,402 hectares for a total DFA of 153,918 hectares. The current annual harvest is approximately 469,200 m^3/year. The DFA excludes Third Party Tenancies that have been granted by the Ministry of Forests, Lands, and Natural Resource Operations (MFLNRO) and BC Assets and Land Corporation as well as the Bill 28 take back area and previously held private land MFU holdings. Refer to Figure 1 for an overview map. SFO respects the legal rights and responsibilities of other parties that also exist on the DFA.

The DFA is located on the Sunshine Coast in the general vicinity of Powell River, within the Sunshine Coast Forest District. Specifically, the DFA is located north of Malaspina Straight, south of Toba Inlet, west of Desolation Sound, and generally east of Jervis inlet. The economic activities generated by the DFA are one of primary economic contributors to the local community.

Logs from the DFA are primarily sorted at the Stillwater Dryland Sort located approximately 20 minutes south of Powell River on Highway 101.

In 2012, another 3,599 hectares was removed from the DFA land base as part of government's Bill 28 take back of tenure. The total harvest chance in the DFA has now decreased by close to 25% over the last ten years.

Description of DFA Tenures, Lands, and Forests

The majority of the forests of the DFA lie within the Coastal Western Hemlock biogeoclimatic zones and is comprised of the following biogeoclimatic variants:

- CWH xm1
- CWH dm
- CWH vm1
- CWH vm2
- MH mm1

Annual precipitation levels reach approximately 3,000mm. The climate is characterized by mild, wet winters with daily mean minimum temperatures of 2 to 5 degrees Celsius (December to February). Summers are generally hot and dry with mean daily maximum temperatures of 22 to 28 degrees Celsius during July and August. However, local climates within the DFA can vary significantly due to topographic influences. The species breakdown of the DFA based on the leading tree species in each stand is:

- Douglas-fir (Fd) 38%
- western hemlock (Hw) 36%
- western red cedar (Cw) 7%
- amabalis fir (Ba) 10%
- red alder (Dr) 3%
- yellow cedar (Yc) 3%

The topography within the DFA is variable. Relatively low relief and undulating terrain characterizes the southern sections of the DFA. The central and northern portions of the DFA are characterized as mountainous and steep. Numerous rivers and streams drain the area. Most streams support resident fish populations with some anadromous populations. Large animals, such as Columbia black-tailed deer, Roosevelt elk, cougar, and black bear, are abundant throughout the DFA area. Numerous other large and small mammals, amphibians, fish and birds can also be found.

Management Responsibilities in the DFA

TFL 39 Block 1 is a renewable tenure on Provincial Crown land and administered by the Ministry of Forests, Lands and Natural Resource Operations under the Forest Act. These tenures are managed by WFP in conjunction with the MFLNRORD, and other agencies. The primary roles and responsibilities

are defined under a variety of legislation including, but not limited to, the Ministry of Forests Act, Forest Act, and Forest and Range Practices Act.

Defined Management or Indicator Responsibilities

In 2013, a Cultural Licence to Cut A80356 (non-BCTS First Nations licence) for 18,300m^3 located within the DFA which was granted by the Ministry of Forests, Lands and Natural Resource Operations was harvested. This is a one-time harvest and the cutblock was harvested under the existing Forest Stewardship Plan for the DFA. The area and volume harvested is reported as part of the annual indicator results in 2013.

A transmission line corridor managed by Alterra Power Corp (formerly Plutonic Power Corporation) is located within the DFA. The transmission line corridor has been cleared and there is essentially no additional harvesting to be completed other than some danger tree falling when necessary. Now that the transmission line corridor has been constructed it isn't anticipated that it will have a material affect on the achievement of the targets outlined in the SFM Plan. Activities along the transmission line corridor (for example danger tree falling and the effect on the Douglas-fir bark beetle outbreak) will be monitored and addressed in the annual SFM Plan performance when relevant.

Management Review

A comprehensive management review of the SFM requirements is completed annually by the SFO management review team to ensure that progress towards SFM continues to be suitable, adequate, and effective. This review looks at all aspects of the Sustainable Forest Management process including the SFM Plan, public participation process, findings of audits (internal and external), corrective and preventative actions etc.

The management review verified that the sustainable forest management plan is being implemented and the sustainable forest management process is functioning well on the DFA. Significant effort and commitment has been made to the sustainable forest management process by the Stillwater Forest Operation and this is reflected in the annual indicator performance review of the SFM Plan.

Section 2: Forecasting Alternative Strategies

Alternative forecasts became a requirement in the 2002 CSA standard. During the development of the values, objectives, indicators and targets with the community advisory group there were many discussions between the organization, guest speakers, forest professionals, specialists, and the advisory group on the management strategies to protect these values. These alternate strategies as shown below represent the dialoged exchange that occurred between the company and the advisory group. A detailed documentation list of all the discussions on alternative strategies is included within the monthly advisory group meeting minutes.

Appended below is a summary of the alternate strategies discussed in developing and maintaining the Z809:08 and Z809:16 data set as it relates to specific indicators. This section also highlights how experts were used in the process.

Indicator 1.1.1 Ecosystem area by type

(Feb 2006, May 2006) Current scientific thoughts on connectivity in relation to Ecosystem Diversity were shared between professionals and CAG. Though in-depth discussions were held, the CAG could not come to consensus on a well-worded value. Company policy and management strategies have changed since the CAG first identified this Value in 2001. Current thinking is that large mammals do not need large tracts of land connected (connectivity) together movement corridors. Westerns current approach is to manage for these mammals through Wildlife Tree Retention Areas (WTRA's) and Wildlife Habitat Area's (WHA's).

(November 8, 2006) Up to date results and learning's from the Adaptive Management Program were reviewed with the CAG by Bill Beese – WFP Forest Ecologist. Some of these alternate harvest strategies were also reviewed in the field. The presentation and field trip included learning's and findings in relation to alternate harvest strategies and the research results discussed are relevant to indicator #1.

- Structural Monitoring – effects of patch size. Different structural responses to different sizes of patches. A range of patch sizes are being retained across the DFA. Old forest and recruitment areas are being retained in a range of patch sizes from large OGMA areas to WTR areas associated with each block harvested.

- Species Monitoring – effects of patch size. Utilization of patches by different species varies with different patch sizes. A range of patch sizes are being retained across the DFA. Old forest and recruitment areas are being retained in a range of patch sizes from large OGMA areas to WTR areas associated with each block harvested.

(June 13, 2007) Marv Clark – Forestry Tour of Chile presentation. Marc Clark, researcher with FERIC gave a presentation on his observations and learning's from a tour completed of forestry operations in Chile. Items discussed related to differences between forest management in the DFA and Chile. Several of these differences discussed relate to indicator #1 and include rotation ages, plantations – species and MAI, cutblock size, planting density, and stand tending regimes,

(January 9, 2008) The Western Forest Strategy program for conserving biodiversity on company tenures was reviewed with the CAG by Bill Beese – WFP Forest Ecologist. The presentation included up to date results and learning's from the Adaptive Management Program to explain the Western Forest Strategy. The Western Forest Strategy includes learning's and findings in relation to alternate harvest strategies which are relevant to indicator #1.

- Patch size. Different structural responses to different sizes of patches. A range of patch sizes are being retained across the DFA. Old forest and recruitment areas are being retained in a range of patch sizes from large OGMA areas to WTR and/or Retention areas associated with each block harvested. Different silviculture systems in the Western Forest Strategy also result in different patch sizes being retained.

(October 9, 2013) Blake Fougere from the Ministry of Forests, Lands, and Natural Resource Operations reviewed the current status of landscape level planning in the district. This landscape level planning process sets aside an appropriate amount of old-growth for the future. This process has been completed for all of the DFA except for the Haslam landscape unit. It is anticipated that this process will be initiated in 2014. An alternate to landscape level planning is the non-spatial old-growth order which is in place until landscape level planning is completed.

(Sept 10, 2014) Christine Petrovcic, GIS Analyst from WFP reviewed the GIS systems WFP has in place and how this facilitates the forecasting of alternative strategies and future forecasts.

(May 13, 2015) Stuart reviewed the planning that is completed at the landscape level and how this relates to the planning completed at the block level. Approximately 60% of the landbase in the DFA is not harvested. The strategy has been selected to manage for a wide range of values across the landscape which includes; riparian, wildlife habitat, old-growth, terrain stability, recreation, inoperable areas etc. This assists in maintaining of a range of ecosystems types across the DFA.

(May 16th, 2018) John Deal – Western Forest Products Forest Strategy and Wildlife Presentation. John reviewed the componenets of the Forest Strategy (Retention Silviculture System, Big Tree Policy, Rare Ecosystems, and the Forest Bird Plan) and presented information on Goshawk and Marbled Murrelet Wildlife Habitat Areas.

(January 13, 2021) John Deal – Presentation on the Old Growth Strategic Review, the Coastal Context on Old Growth, Old Growth Recommendations, and Western's Big Tree Standard.

(December 8, 2021) John Deal – Updates on Old Growth and Marbled Murrelet.

Indicator 1.1.2 Ecosystem by Area and Type

(May 16th, 2018) John Deal – Western Forest Products Forest Strategy and Wildlife Presentation. John reviewed the componenets of the Forest Strategy (Retention Silviculture System, Big Tree Policy, Rare Ecosystems, and the Forest Bird Plan) and presented information on Goshawk and Marbled Murrelet Wildlife Habitat Areas.

Indicator 1.1.3 Forest Area by Seral Stage or Age Class

(May 16th, 2018) John Deal – Western Forest Products Forest Strategy and Wildlife Presentation. John reviewed the componenets of the Forest Strategy (Retention Silviculture System, Big Tree Policy, Rare Ecosystems, and the Forest Bird Plan) and presented information on Goshawk and Marbled Murrelet Wildlife Habitat Areas.

Indicator 1.1.4 Degree of within-stand retention

(November 8, 2006) Up to date results and learning's from the Adaptive Management Program were reviewed with the CAG by Bill Beese – WFP Forest Ecologist. Some of these alternate harvest strategies were also reviewed in the field. The presentation and field trip included learning's and findings in relation to alternate harvest strategies and the research results discussed are relevant to indicator #2.

- Structural Monitoring – effects of patch size. Different structural responses to different sizes of patches. A range of patch sizes are being retained across the DFA. Old forest and recruitment areas are being retained in a range of patch sizes from large OGMA areas to WTR areas associated with each block harvested.

- Species Monitoring – effects of patch size. Utilization of patches by different species varies with different patch sizes. A range of patch sizes are being retained across the DFA. Old forest and recruitment areas are being retained in a range of patch sizes from large OGMA areas to WTR areas associated with each block harvested.

(January 9, 2008) The Western Forest Strategy program for conserving biodiversity on company tenures was reviewed with the CAG by Bill Beese – WFP Forest Ecologist. The presentation included up to date results and learning's from the Adaptive Management Program to explain the Western Forest Strategy. The Western Forest Strategy includes learning's and findings in relation to alternate harvest strategies which are relevant to indicator #2.

- Stand level retention. Bill Beese reviewed the stand level retention requirements for the Western Forest Strategy and how they relate the various biogeoclimatic subzones found in the DFA. Certain subzones have higher retention requirements relating to the previous harvesting history. Learning's from the adaptive management program which show a range of patch sizes being preferable was reviewed and the amount of non retention blocks to be harvested across the landscape to provide for larger stand level patches being retained was explained.

(June 13, 2007) Marv Clark – Forestry Tour of Chile presentation. Marc Clark, researcher with FERIC gave a presentation on his observations and learning's from a tour completed of forestry operations in Chile. Items discussed related to differences between forest management in the DFA and Chile. One of these differences discussed relating to indicator #2 is cutblock size. One of the cutblocks visited in Chile was 500ha in size vs. a general maximum cutblock size of 40ha on the DFA.

(May 16th, 2018) John Deal – Western Forest Products Forest Strategy and Wildlife Presentation. John reviewed the componenets of the Forest Strategy (Retention Silviculture System, Big Tree Policy, Rare Ecosystems, and the Forest Bird Plan) and presented information on Goshawk and Marbled Murrelet Wildlife Habitat Areas.

(October 22, 2020) Darwyn Koch – Review of the new Special Tree Regulation versus Western's Big Tree Policy.

(January 13, 2021) John Deal – Presentation on the Old Growth Strategic Review, the Coastal Context on Old Growth, Old Growth Recommendations, and Western's Big Tree Standard.

(December 8, 2021) John Deal – Updates on Old Growth and Marbled Murrelet.

Indicator 1.2.1 Degree of habitat protection for selected focal species

(March 2006, May 2006) CAG and company agree that, through information provided by experts, it makes more sense to report on and manage for Species at Risk in the BC Government Category of Species at Risk list rather than the broader Red and Blue listed species. It was agreed that this change of strategy is more relevant to local species.

(November 8, 2006) Up to date results and learning's from the Adaptive Management Program were reviewed with the CAG by Bill Beese – WFP Forest Ecologist. Some of these alternate harvest

strategies were also reviewed in the field. The presentation and field trip included learning's and findings in relation to alternate harvest strategies and the research results discussed are relevant to indicator #3.

- Species Monitoring – effects of patch size. Utilization of patches by different species varies with different patch sizes. A range of patch sizes are being retained across the DFA. Old forest and recruitment areas are being retained in a range of patch sizes from large OGMA areas to WTR areas associated with each block harvested. A range of patch sizes therefore assists in providing habitat for a wide range of species across the landscape. Large reserve areas have been retained for Mountain Goats, Grizzly Bears, and Marbled Murrelet.

(January 9, 2008) The Western Forest Strategy program for conserving biodiversity on company tenures was reviewed with the CAG by Bill Beese – WFP Forest Ecologist. The presentation included up to date results and learning's from the Adaptive Management Program to explain the Western Forest Strategy. The Western Forest Strategy includes learning's and findings in relation to alternate harvest strategies which are relevant to indicator #1.

- Patch size. A range of patch sizes are being retained across the DFA. Different silviculture systems in the Western Forest Strategy also result in a range of patch sizes being retained.

(Feb 19, 2014) Bryce Bancroft provided an update on the Marbled Murrelet Recovery Strategy and the key considerations relating to this initiative. Based on the discussion of alternate strategies, CAG provided a letter to the process regarding their preferred option for the process.

(Sept 10, 2014) Sue McDonald, Wildlife Biologist reviewed the available processes and tools WFP uses to manage for a variety of species.

(Feb 2, 2016) John Deal WFP Strategic Planning Biologist – Implementation Plans for Northern Goshawk and Marbled Murrelet. John reviewed the biological requirements for these 2 species as well as looked at Recovery Action Plans and Implementation Plans.

(October 10, 2017) Tyson Berkenstock - Understanding Wetlands, Stillwater THLB Stabilitzation Project, and Unique Water Features. Tyson presented a detailed review of the types of Wetlands on the landscape, their role and function in forest ecosytems, and the importance of these wetlands. Wetlands are fairly productive, there are lots of insects and food for wildlife. Tyson included a number of photos of wildlife from wetlands including crayfish, western toad, roughskin newt, northwestern salamander egg mass, great blue heron, and osprey. Wetlands are managed at a landscape level and at a site level. Because they are often so productive and diverse they are used as ecological anchors for landscape level reserves or alternatively at a site level for our variable retention strategy.

(May 16th, 2018) John Deal – Western Forest Products Forest Strategy and Wildlife Presentation. John reviewed the componenets of the Forest Strategy (Retention Silviculture System, Big Tree Policy, Rare Ecosystems, and the Forest Bird Plan) and presented information on Goshawk and Marbled Murrelet Wildlife Habitat Areas.

(October 22, 2020) Darwyn Koch – Review of the new Special Tree Regulation versus Western's Big Tree Policy.

(January 13, 2021) John Deal – Presentation on the Old Growth Strategic Review, the Coastal Context on Old Growth, Old Growth Recommendations, and Western's Big Tree Standard.

(December 8, 2021) John Deal – Updates on Old Growth and Marbled Murrelet.

Indicator 1.2.2 Degree of habitat protection in the long term for selected focal species

(March 2006, May 2006) CAG and company agree that, through information provided by experts, it makes more sense to report on and manage for Species at Risk in the BC Government Category of Species at Risk list rather than the broader Red and Blue listed species. It was agreed that this change of strategy is more relevant to local species.

(November 8, 2006) Up to date results and learning's from the Adaptive Management Program were reviewed with the CAG by Bill Beese – WFP Forest Ecologist. Some of these alternate harvest strategies were also reviewed in the field. The presentation and field trip included learning's and findings in relation to alternate harvest strategies and the research results discussed are relevant to indicator #3.

- Species Monitoring – effects of patch size. Utilization of patches by different species varies with different patch sizes. A range of patch sizes are being retained across the DFA. Old forest and recruitment areas are being retained in a range of patch sizes from large OGMA areas to WTR areas associated with each block harvested. A range of patch sizes therefore assists in providing habitat for a wide range of species across the landscape. Large reserve areas have been retained for Mountain Goats, Grizzly Bears, and Marbled Murrelet.

(January 9, 2008) The Western Forest Strategy program for conserving biodiversity on company tenures was reviewed with the CAG by Bill Beese – WFP Forest Ecologist. The presentation included up to date results and learning's from the Adaptive Management Program to explain the Western Forest Strategy. The Western Forest Strategy includes learning's and findings in relation to alternate harvest strategies which are relevant to indicator #1.

- Patch size. A range of patch sizes are being retained across the DFA. Different silviculture systems in the Western Forest Strategy also result in a range of patch sizes being retained.

(Feb 19, 2014) Bryce Bancroft provided an update on the Marbled Murrelet Recovery Strategy and the key considerations relating to this initiative. Based on the discussion of alternate strategies, CAG provided a letter to the process regarding their preferred option for the process.

(Sept 10, 2014) Sue McDonald, Wildlife Biologist reviewed the available processes and tools WFP uses to manage for a variety of species.

(Feb 2, 2016) John Deal WFP Strategic Planning Biologist – Implementation Plans for Northern Goshawk and Marbled Murrelet. John reviewed the biological requirements for these 2 species as well as looked at Recovery Action Plans and Implementation Plans.

(October 10, 2017) Tyson Berkenstock - Understanding Wetlands, Stillwater THLB Stabilitzation Project, and Unique Water Features. Tyson presented a detailed review of the types of Wetlands on the landscape, their role and function in forest ecosytems, and the importance of these wetlands. Wetlands are fairly productive, there are lots of insects and food for wildlife. Tyson included a number of photos of wildlife from wetlands including crayfish, western toad, roughskin newt, northwestern salamander egg mass, great blue heron, and osprey. Wetlands are managed at a landscape level and at a site level. Because they are often so productive and diverse they are used as ecological anchors for landscape level reserves or alternatively at a site level for our variable retention strategy.

(May 16th, 2018) John Deal – Western Forest Products Forest Strategy and Wildlife Presentation. John reviewed the componenets of the Forest Strategy (Retention Silviculture System, Big Tree Policy, Rare Ecosystems, and the Forest Bird Plan) and presented information on Goshawk and Marbled Murrelet Wildlife Habitat Areas.

(October 22, 2020) Darwyn Koch – Review of the new Special Tree Regulation versus Western's Big Tree Policy.

(January 13, 2021) John Deal – Presentation on the Old Growth Strategic Review, the Coastal Context on Old Growth, Old Growth Recommendations, and Western's Big Tree Standard.

(December 8, 2021) John Deal – Updates on Old Growth and Marbled Murrelet.

Indicator 1.2.3 Proportion of regeneration comprised of native species

(June 13, 2007) Marv Clark – Forestry Tour of Chile presentation. Marc Clark, researcher with FERIC gave a presentation on his observations and learning's from a tour completed of forestry operations in Chile. Items discussed related to differences between forest management in the DFA and Chile. One of these differences discussed relating to indicator 1.2.3 is stand reforestation. Discussion related to regenerating monoculture stands of non-native trees (eucalyptus and radiate pine) vs. of stands containing a range of native tree species.

(October 5, 2015) Annette Van Niejenhuis, who is a tree improvement forester, gave a presentation on the Saanich seed orchard and assisted migration. Annette reviewed some of the work being completed to help mitigate for the effects of climate change. As the climate changes, the range of tree species will also change and research is being completed on assisting trees to shift with the changing climate based on where seed is selected. This is a risk mitigation strategy that selects for trees selected from areas that will be adapted to the changed climate.

Indicator 1.2.4 Percent of Area within Deer Winter Ranges that is consistent with Management Strategies

(September 18, 2017) Darwyn Koch WFP TFL Forester presented information about the Black Tailed Deer Winter Ranges in TFL 39 block 1. In 2017 the Deer Winter Ranges were removed from the Forest Stewardship Plan as these winter ranges are not legal. The Deer Winter Range requirements and strategies now reside in the SFMP. The Deer Winter Range polygons and strategies were originally proposed by Steve Gordon of the Ministry of Environment in 2000. Although the Deer Winter Ranges are not legal, in 2004 the Deer Winter Ranges and strategies were incorporated into forest planning through the Forest Stewardship Plan.

Indicator 1.3.1 Percent of trees planted that are GMOs

(November 14, 2018) Nancy Pezel (WFP) reviewed the 2017 and 2018 silviculture activities.

Indicator 1.4.1 Protection of Sites of Special significance

(October 10, 2017) Tyson Berkenstock - Understanding Wetlands, Stillwater THLB Stabilitzation Project, and Unique Water Features. Tyson presented a detailed review of the types of Wetlands on the landscape, their role and function in forest ecosytems, and the importance of these wetlands. Wetlands are fairly productive, there are lots of insects and food for wildlife. Tyson included a number of photos of wildlife from wetlands including crayfish, western toad, roughskin newt, northwestern salamander egg mass, great blue heron, and osprey. Wetlands are managed at a landscape level and at a site level. Because they are often so productive and diverse they are used as ecological anchors for landscape level reserves or alternatively at a site level for our variable retention strategy.

(May 16th, 2018) John Deal – Western Forest Products Forest Strategy and Wildlife Presentation. John reviewed the componenets of the Forest Strategy (Retention Silviculture System, Big Tree Policy, Rare

Ecosystems, and the Forest Bird Plan) and presented information on Goshawk and Marbled Murrelet Wildlife Habitat Areas.

(May 15, 2019) John Deal – Western Forest Products Stewardship and Conservation Plan. John reviewed the componenets of the Forest Strategy (Retention Silviculture System, Big Tree Policy, Rare Ecosystems, and the Forest Bird Plan) and presented information on Goshawk and Marbled Murrelet Wildlife Habitat Areas.

(January 13, 2021) John Deal – Presentation on the Old Growth Strategic Review, the Coastal Context on Old Growth, Old Growth Recommendations, and Western's Big Tree Standard.

(December 8, 2021) John Deal – Updates on Old Growth and Marbled Murrelet.

Indicator 1.4.2 Proportion of Identified Sites with Implemented Management Strategies

(January 13, 2021) John Deal – Presentation on the Old Growth Strategic Review, the Coastal Context on Old Growth, Old Growth Recommendations, and Western's Big Tree Standard.

(December 8, 2021) John Deal – Updates on Old Growth and Marbled Murrelet.

Indicator 2.1.1 and 4.1.2 Reforestation Success

(January 14, 2015) A field trip was made to the Sylvan Vale nursery in the Comox Valley to learn about the strategy used for managing seed and techniques used for growing seedlings in order to ensure reforestation success. The storeage and use of seed is strictly controlled in BC and seedlings are required to meet health, size, height, and diameter requirements. Seedlings are grown for spring and fall planting to ensure reforestation success and the different elevations that harvesting occurs at.

(November 16, 2015) Kelly Niedermayer from Adept Vegetation Management and Stuart discussed the options available for managing for competing brush species during reforestation. A mix of methods are utilized to ensure reforestation success. The type of brush, amount of competition, and size of regenerating trees all inform the decision on what brushing method to utilize.

(November 16, 2015) Stuart reviewed the results from monitoring of the seedlings planted in the spring after the unusually hot and dry summer. Survival has been surprisingly high and we continue to monitor our planting strategy for spring and summer relative to changes we are observing in the climate.

(November 14, 2018) Nancy Pezel (WFP) reviewed the 2017 and 2018 silviculture activities.

(April 14, 2021) Nancy Pezel (WFP) reviewed the 2021 planned silviculture activities, including proposed herbicide treatments. Nancy's presentation also provided information about treatment planning, how we are makng efforts to reduce herbicide use, the Notice of Intent to Treat submissions to MoE and First Nations as well as the Detailed Site Assessments for each block that will be treated with herbicides.

Indicator 2.1.2 Proportion of Regeneration that is comprised of Native Species

(November 14, 2018) Nancy Pezel (WFP) reviewed the 2017 and 2018 silviculture activities.

(April 14, 2021) Nancy Pezel (WFP) reviewed the 2021 planned silviculture activities, including proposed herbicide treatments. Nancy's presentation also provided information about treatment planning, how we are makng efforts to reduce herbicide use, the Notice of Intent to Treat submissions to MoE and First Nations as well as the Detailed Site Assessments for each block that will be treated with herbicides.

Indicator 2.1.3 and 4.2.1 Additions and deletions to the forest area

(March 14, 2007) The CAG invited Sue Bonnyman from the Environmental Assessment Office (EAO) to discuss the environmental assessment process for the proposed Plutonic Power Corporation project. There is concern about the transmission line and the impact on the recreation and visual resource as well as loss of productive forest area all of which impact the DFA. Alternate route options were discussed and have been provided by WFP which would reduce the impact to the DFA and Indicator #24.

(December 12, 2007) Stuart Glen – WFP Forester. Stuart provided an overview of the major amendment relating to harvesting of ST-205 prior to the installation of the Plutonic transmission line. Harvesting prior to the installation of the transmission line limits the amount of timber isolated from safe and practicable harvest. Harvesting this area now temporarily increases the area of harvesting that is visible in a non-greened up state. A full professional visual analysis was completed prior to harvesting to help determine the most suitable strategy. The strategy to harvest the timber now that could be isolated from practicable harvest once the transmission line is constructed was implemented to limit the area impacted by the transmission line corridor.

(March 12, 2008) Martin Buchannan provided updates on the efforts being made by WFP to minimize the impacts of the transmission line on the DFA. Items that were ongoing at the time were:
- line heights: BC Hydro vs. Worksafe and safe heights for moving harvesting equipment
- widening of the corridor application due to alignment issues
- routing of the line to minimize THLB impacts

These efforts have been extremely important as without them the productive forest lost from the DFA would very likely be much higher.

(April 23, 2008) The CAG held a meeting with Plutonic Power regarding run of the river projects as the transmission lines travel through the DFA and affect almost all of the sustainable forest management indictors in the SFMP either directly or indirectly. Questions were asked regarding the Freda Project, the size of transmission lines, other power projects and cooperation between power companies, routing options, line heights, OGMA intrusions, access roads etc.

(May 14, 2008) The CAG invited Hawkeye to the May meeting regarding their planned run of the river projects and transmission line corridor plans in the DFA. The proposed Hawkeye projects will also affect the indictors in the SFMP directly or indirectly and the objective of CAG was to engage Hawkeye early in the process so that the effect of the projects on the DFA could be minimized. Hawkeye made several commitments to the CAG on minimizing the impact on the DFA and associated forest resource.

Indicator 2.1.4 Proportion of the calculated long-term sustainable harvest level that is actually harvested

(March 12, 2008) The aerial fertilization program was discussed with 300-400ha planned for fertilizing in 2008. The fertilization is targeted at stands of 30-50 years of age to give them a final boost of growth in the last 10 to 20 years. Fertilization can positively affect the harvest levels in the DFA.

(September 10, 2008) Don Benn from Juan de Fuca Environmental Consultants who completed the visual landscape inventory for TFL 39 Blk 1 provided a review of the Visual Quality Objectives (VQO's) resulting from the updated inventory. VQO's are part of the harvest level determination and depending on the VQO established the harvest level in the DFA can be impacted. Don reviewed the process of

determining the VQO from the visual landscape inventory and how the VQO's take into account the amount of recreational use in an area.

(Jan 9, 2013) Rick Jeffries from the Coast Forest Products Association discussed the market cycle and that lumber prices are rising worldwide. Rick also discussed the markets for wood and what work is being completed to increase sales of wood to markets around the world, particularly in Asia. If the Chinese market were to increase from 3% of coastal wood to 15% or 20% the market would be bigger than the US or Japan. Opportunities being explored for the mid-rise market was also discussed. The strategy being implemented is to proactively implement various initiatives to help ensure that the full long-term sustainable harvest level is able to be utilized.

(April 10, 2013) Peter Kofoed and Kerry McGourlick from WFP updated the group regarding the progress made on Management Plan #9. The sensitivity analysis portion of the project was explained and how it affects the harvest level that is sent as a recommendation to the Chief Forester. This analysis and the associated data package is key to determining the long-term sustainable harvest level. The difference between the conventional and unconventional landbase was explained and how this affects the overall harvest level that is set for the DFA. Options are being explored at this time regarding opportunities for a partition cut.

(August 20, 2013) A CAG field trip was completed to Powell Daniels and Shermans that looked at how the non-conventional landbase is being accessed. In Powell Daniels, helicopter yarding was being utilized to harvest an area that was too steep for roads. At Shermans, difficult and expensive road construction was being utilized to access an area that was previously thought to not be able to be accessed by roads. The strategy of detailed management of these areas with a long-term plan facilitates the full utilization of the available harvest opportunities.

(November 13, 2013) Makenzie Leine from WFP presented the details of cut control and the implications and unintended consequences that can arise. The areas discussed included market cycles are generally greater than 5 years, the potential loss of harvest opportunity when AAC's are not harvested, the consequences of being forced to harvest when it isn't economical, the issue of timber being reallocated to other operators once the market cycle has improved and it is now economical, and the allocation of cut among operations in an effort to make the AAC prior to the end of the cut control period for each license. Solutions to the current control limitations are currently being explored.

(September 12, 2016) Darwyn Koch WFP TFL Forester discussed with the CAG the Annual Allowable Cut (AAC) Recent Decision. The AAC for TFL39 was re-determined on August 29 by Diane Nicholls, Chief Forester BC. It is set for 10 years. There was a drop which reflects the cuts made to Block 1 with the Community Forest and Tla'amin Treaty agreement. It is now 1.416 million m3 over 5 blocks. For Block 1 and Block 2 there are partitions set. A partition is a restriction on the harvesting. It says that of the annual volume that is allowed for harvest a certain amount must come from some constraint like species or operability or dead and damaged timber. This partition is for operability. For Block 1 and Block 2 1.375 million m3 is allowed. Of that a certain percentage has to be non-conventional wood which is basically heli-wood. The entire TFL39 Block 1 had an operability study on it to identify the conventional ground versus nonconventional (heli). This is now hard wired into their management plan to identify how much land base WFP has in each of the categories and that was used in the determination to figure out how much wood is heli and how much will be harvested by conventional means. Block 1 has a conventional AAC of 380,000 m3 and non-conventional is 89,200 m3 for a total AAC of 469,200 m3

Indicator 2.1.5 The % of the DFA that is impacted by biotic and abiotic factors

(November 8, 2006) Up to date results and learning's from the Adaptive Management Program were reviewed with the CAG by Bill Beese – WFP Forest Ecologist. Some of these alternate harvest strategies were also reviewed in the field. The presentation and field trip included learning's and findings in relation to alternate harvest strategies and the research results discussed are relevant to indicator #13.

- Windthrow monitoring results have identified:
    - Windthrow damage varies regionally
    - Important factors are: height, exposure, fetch, elevation, topography, rooting depth
    - Large patches have less than small patches

  There are a range of layout options available when designing a cutblock and this information is utilized in the field design of cutblocks and in determining where to prescribe additional tree windfirming treatments to minimize the amount of windthrow in the DFA.

(January 9, 2008) The Western Forest Strategy program for conserving biodiversity on company tenures was reviewed with the CAG by Bill Beese – WFP Forest Ecologist. The presentation included up to date results and learning's from the Adaptive Management Program to explain the Western Forest Strategy. The Western Forest Strategy includes learning's and findings in relation to alternate harvest strategies which are relevant to indicator #1.

- Windthrow. Windthrow results from the adaptive management program were reviewed relating to different levels of stand retention. Different silviculture systems in the Western Forest Strategy affect the size and range of patch sizes being retained enabling additional strategies for minimizing windthrow.

(October 24, 2008) On October 24 several CAG members went on a trip to Goat Island. One of the items of interest to view and discuss was the extensive windthrow which occurred in the VRAM block GI-100 and other areas of Goat Island. Alternate strategies relating to silvicultural systems and patch sizes were viewed and discussed. Different silvicultural systems are now used in the DFA and blocks utilizing the clearcut with reserves system can be strategically used where the incidence of windthrow is expected to be higher in order to reduce the amount of windthrow which occurs on the DFA.

(October 13, 2010) A presentation on the Douglas-fir bark beetle was provided by a CAG member and WFP from a field trip earlier in the week with provincial entomologists. A strategy for managing the beetle was discussed as well as the expected impact of the current outbreak. Strategies range from doing nothing to aggressively completing a trap tree and salvage program. WFP is currently in the process of preparing an aggressive trap tree and salvage program to manage the current outbreak.

(April 10, 2013) Stuart Glen – WFP Forester. Stuart provided an overview of his learning's from a recent climate change workshop on Vancouver Island. Modeling shows temperatures and rainfall are expected to rise for the coast. There is therefore the potential for increased damage from biotic and abiotic factors. Decisions are now being made through a climate change lens. The risk of doing nothing is felt to be greater than the risk of doing something and getting it wrong. The strategy currently being implemented is to review all decisions through a climate change lens and as an example; site specific planting decisions are being adjusted accordingly.

(October 9, 2013) Blake Fougere from the Ministry of Forests, Lands, and Natural Resource Operations reviewed the data regarding fires and bug data for the district. On average there are 397 fires a year on the coast. Monitoring for the gypsy moth and hemlock looper continues. The Douglas-fir bark beetle

numbers have falling off considerably and now seems to be in check. The current strategy is to actively monitor for pests and manage for fires within the district.

(May 9, 2016) Eveline Stokkink – Ambrosia Beetles. Eveline discussed with the CAG the biology of the Ambrosia Beetle. Trypodendron lineatum do 70% of the ambrosia beetle damage in this area. Ambrosia Beetles infest downed trees and Felled and Bucked trees. The beetles need about 3-4 days of daytime tempertures over 14 degrees to fly. A cold wet spring will delay the spring flight and may reduce their populations. Eveline manages the beetle funnel traps at the Dry Land Sort. During the flight periods she monitors these traps for Ambrosia population statistics. These traps contain pheromones which attract the beetles. Trapping suppresses resident populations of both species of ambrosia beetle, monitors hot spots, and influences log supply practices by improving staff awareness.

(October 17, 2018) Jeff Belcher from Wildfire Management Branch reviewing the 2018 fire season. Jeff covered the 2018 fire season, current trends and issues, fire smart principles, hazard abatement, and smoke management.

(May 12, 2021) Eliot King, Stewardship Forester with FLNRO presented information related to the Hemlock Looper infestation as well as reviewing the FREP program and results.

Indicator 2.1.6 Amount of area treated with herbicides

(May 2006 and Oct 2006) CAG member shares concerns and knowledge about the potential for treating maple copses with fertilizer and not herbicide. Expert brought in to discuss current trends. To date the company has not adopted an alternative strategy for managing maple nor found any specific research into that proposed method.

(January 10, 2007) As part of the silviculture update Rudi presented information on herbicide use. Rudi explained what the impacts can be of alternate strategies related to the timing of herbicide application and the associated amount of herbicide required to be applied. For example, an early treatment is effective at knocking the brush back and reduces the amount (if any) of herbicide required in the future. Information was also presented on new research results from growing alder in conifer stands. Data shows that up to 200 hectares of alder in conifer stands is actually increasing the growth and volume of conifers. An alder regeneration strategy is included in the new FSP and now provides for an alternate strategy which WFP believes will reduce brushing costs and herbicide use.

(April 10, 2013) Rudi reviewed the brushing program for the year and the types of areas where he was considering using herbicides. The factors and alternative options considered in the decision making process for using herbicides was reviewed.

(Feb 19, 2014) Rudi reviewed the brushing program for the year and the types of areas where he was considering using herbicides. The factors and alternative options considered in the decision making process for using herbicides was reviewed.

(March 23, 2015) Nancy reviewed the brushing program for the year and the types of areas where she was considering using herbicides. The factors and alternative options considered in the decision making process for using herbicides was reviewed.

(November 16, 2015) Kelly Niedermayer from Adept Vegetation Management and Stuart discussed the options available for managing for competing brush species during reforestation. A mix of methods are utilized to ensure reforestation success. The type of brush, amount of competition, and size of regenerating trees all inform the decision on what brushing method to utilize. Kelly reviewed the specific procedures used when herbicides are selected as the preferred brushing treatment method.

(November 20, 2017) Blake Fougere, MFLNRO FREP Update and Invaisive Plants. Blake started off his presentation with a brief overview of the Sunshine Coast District. He then reviewed in detail the recent FREP analysis for Stillwater TFL 39 block 1 covering the following topics: small stream management; Stand Level Diversity; Water Quality; Visuals; and stand development monitoring. Cultural Heritage and Wildlife monitoring is planned for upcoming years.

(November 14, 2018) Nancy Pezel (WFP) reviewed the 2017 and 2018 silviculture activities.

(June 3, 2020) Nancy Pezel (WFP) reviewed the proposed 5-year Pest Management Plan that was subsequently submitted to the MoE and approved on September 10, 2020. Herbicide use over the past 5 years and the factors and alternative options considered in the decision-making process for using herbicides was reviewed.

(April 14, 2021) Nancy Pezel (WFP) reviewed the 2021 planned silviculture activities, including proposed herbicide treatments. Nancy's presentation also provided information about treatment planning, how we are makng efforts to reduce herbicide use, the Notice of Intent to Treat submissions to MoE and First Nations as well as the Detailed Site Assessments for each block that will be treated with herbicides.

Indicator 3.1.1 Level of soil disturbance

Indicator 3.1.2 Level of downed Woody Debris

Indicator 3.2.1 The proportion of watershed or water management areas with recent stand-replacing disturbance

(Dec 11, 2013) A review and discussion was completed regarding the option of harvesting within the Jefferd Creek Community Watershed. The information from Brian Carson's field visit was reviewed including the option of rechanneling an old stream back into Jefferd Creek and the hydrological information relating to the potential harvest area.

(April 8, 2015) - Brian Carson provided a review on the CWAP update completed for the Haslam Lang community watershed. Brian reviewed how water management and water quality are related. The strategy implemented is to careful manage for water so that water quality is maintaind. Managing for ECA's is one aspect but Brian considers other items to be more important such as managing for sediment generation from roads, harvesting and roads relating to terrain stability, and managing recreation use.

(November 20, 2017) Blake Fougere, MFLNRO FREP Update and Invaisive Plants. Blake started off his presentation with a brief overview of the Sunshine Coast District. He then reviewed in detail the recent FREP analysis for Stillwater TFL 39 block 1 covering the following topics: small stream management; Stand Level Diversity; Water Quality; Visuals; and stand development monitoring. Cultural Heritage and Wildlife monitoring is planned for upcoming years.

(December 12, 2018) Drew Brayshaw from Statlu Environmental Consulting presented information of Water Quality and Quantity in watersheds supplying domestic water using the Jeffered Creek Community Watershed as a case study.

Indicator 3.2.2 Proportion of forest management activities, consistent with prescriptions to protect identified water features

(June 13, 2007) Marv Clark – Forestry Tour of Chile presentation. Marc Clark, researcher with FERIC gave a presentation on his observations and learning's from a tour completed of forestry operations in Chile. Items discussed related to differences between forest management in the DFA and Chile. One of these differences discussed relating to indicator #19 is stream management. Discussion related to stream protection measures in place in the DFA that protect water quality and quantity.

(Jan 12, 2010) Brian Carson – Forest hydrologist. Brian provided a presentation on his work done in the Haslam/Lang Community Watershed for the Community Forest. His presentation covered strategies to reduce sedimentation from roads and recreational use. Overall, the Community Forest far exceeds the provincial average in regards to good water management.

(October 9, 2013) Blake Fougere from the Ministry of Forests, Lands, and Natural Resource Operations reviewed the Forest and Range Evaluation (FREP) data for water quality, riparian, stand level biodiversity, and visuals. The water quality in the district is very good and above the provincial average. A key strategy used is to get the water off of the road as quickly as possible so that silt does not build up that can end in a creek.

(January 14, 2015) Doug McCorquodale from Pacificus Biological Services gave a presentation on the expertise and processes used when working around water in forestry to ensure the federal and provincial fisheries requirements are met. Items discussed were methods of stream classification, stream crossings, recent changes to fisheries legislation, and how professionals and approvals fit into the system.

(March 23, 2015) A CAG member reviewed their field visit to TM-265 to look at the strategy being used to manage for fish streams in this block. Techniques being used included; high stumping, windfirming, and selective hand falling along the streams.

(April 8, 2015) - Brian Carson provided a review on the CWAP update completed for the Haslam Lang community watershed. Brian reviewed how water management and water quality are related. The strategy implemented is to careful manage for water so that water quality is maintaind. Managing for ECA's is one aspect but Brian considers other items to be more important such as managing for sediment generation from roads, harvesting and roads relating to terrain stability, and managing recreation use.

(November 20, 2017) Blake Fougere, MFLNRO FREP Update and Invaisive Plants. Blake started off his presentation with a brief overview of the Sunshine Coast District. He then reviewed in detail the recent FREP analysis for Stillwater TFL 39 block 1 covering the following topics: small stream management; Stand Level Diversity; Water Quality; Visuals; and stand development monitoring. Cultural Heritage and Wildlife monitoring is planned for upcoming years.

(December 12, 2018) Drew Brayshaw from Statlu Environmental Consulting presented information of Water Quality and Quantity in watersheds supplying domestic water using the Jeffered Creek Community Watershed as a case study.

Indicator 3.2.3 The annual number of EMBC reportable spills

Indicator 4.1.1 Net carbon uptake

(October 7, 2009) A climate change and coastal forestry session was held in Powell River with an invitation extended to many local organizations. The current forest policy relating to carbon was reviewed and along with the anticipated effects that climate change may have on the local forests.

(March 23, 2015) Nancy reviewed the results from the Burn Plan that was approved. The strategy used is to burn some roadside forest fuels after harvesting when required to reduce the fire hazard. The Burn Plan is divided into different zones to manage for smoke control. It is recognized that forest fuels releases carbon and a fire hazard assessment is completed prior to burning to ensure that it is required.

(January 13, 2021) Marie-Eve Leclerc. Presentation on the carbon cycle relative to indicator 4.1.1.

(October 16, 2021) Marie-Eve Leclerc. Presentation on the carbon cycle relative to indicator 4.1.1.

(December 8, 2021) Marie-Eve Leclerc. Carbon 101 presentation to the CAG relative to TFL 39 block 1.

Indicator 5.1.1 Documentation of the diversity of timber and non-timber resources, including products and services in the DFA

Indicator 5.1.2 Evidence of open and respectful communications with forest dependant businesses, forest users and local communities to integrate non-timber resources into forest management planning. When significant disagreement occurs, efforts towards conflict resuolution are documented.

Indicator 5.2.1 Level of participation and support in initiatives that contribute to community sustainability

(November 8, 2006) Up to date results and learning's from the Adaptive Management Program were reviewed with the CAG by Bill Beese – WFP Forest Ecologist. The presentation included learning's and findings in relation to alternate harvest strategies some of which are relevant to indicator #27.

As the adaptive management program has continued various research programs were changed and some new ones have been added as more information and understanding has been gained.

(Jan 9, 2013) Rick Jeffries from the Coast Forest Products Association discussed the market cycle and that lumber prices are rising worldwide. Rick shared that the one big challenge on the coast is that it is undercapitalized. Profitability has been elusive and without profitability it is hard to invest in business. WFP has since announced that they have a $200 million capital plan investing for the future. In follow-up to this, on Februry 6, 2014 a CAG field trip was completed of the Saltair sawmill which is undergoing a $38 million dollar upgrade. This upgrade is able to be completed as WFP has managed to sustain profitability for four years and capital has been able to attract capital to the coast.

(May 8, 2013) Stuart Glen and Walt Cowlard reviewed some of the higher level strategies and complexities that go into the planning process to ensure sustainability over time. The complexities of managing visual viewscapes, wildlife polygons, different harvest systems, seasonal opportunities, log dumps on Powell Lake, difficult and expensive roads into the non-conventional landbase, recreation considerations, streams etc. were all reviewed. The planning process that captures these complexities to deliver a logical plan that will contribute to the sustainability of an even flow of harvesting opportunities

was discussed. An important part of the planning process is to make decisions considering the future and an integrated plan is in place that does this.

(Feb 6, 2014) CAG visited the Saltair Sawmill in 2014 to get a first-hand look at the major manufacturing upgrade being completed in Western's sawmills. These investments position the manufacturing operations to be better able to absorb market fluctuations and ensure a reliable supply of products through-out the cycle providing more secure employment.

(March 23, 2015) Nancy reviewed the project completed on Horseshoe Lake to boom up approximately 5ha of driftwood to facilitate use of the Powell Forest Canoe Route. The strategy utilized to successfully complete the project was to provide direct support to the project, receive sponsorship help from other parties, combined with funding from Recreation Sites and Trails, BC. The regular maintenance work completed to maintain the Canoe Route was also reviewed.

Indicator 5.2.2 Level of participation and support in training and skills development

(Jan 2006) After discussion it was agreed that the next printing of Cascadia's now WFP's release package checklists for roads and harvest areas will include a section on access to help ensure contractors are aware of any access issues for that area. Western agrees to make this part of their commitment when disseminating pre-harvest relevant information to its contractors.

Indicator 5.2.3 Level of direct and indirect employment

(Oct 9, 2014) Lisa Perrault, Coordinator of Strategic partnerships with WFP provided an overview of the initiatives being undertaken to bring young workers into the forestry workforce. WFP has taken the strategy to actively seek and train young workers for the future.

Indicator 5.2.4 CAG is informed of corporate policy, program changes, and initiatives in a timely manner – Local Indicator

(Dec 17, 2018) The rebranding on WFP was reviewed and discussed with the CAG by Darwyn Koch WFP TFL Forester. The central theme of "Defining a Higher Standard" was evident in the promotional videos on WFP YouTube site.

(September 18, 2017) Ken Mackenzie WFP Operations Manager presented Simplified Log Sorting at WFP. Western is going through a transformational change. They are trying to change their whole business including how people relate and using technology to move ahead. There is a new Board of Directors now that they have split away from Brookfield and they are focused on remaining competitive and getting ahead of the competition. They need to attract capital to invest in their mills and equipment. They are competing with forest industry all over the world. The goal is to reduce the number of sorts to simplify the log handling process. The will not jeopardize safety. They will improve the end to end productivity, reduce the time it takes to get a log to customer, operate sustainably across profile and through market cycles, keep pace with their competitors who are simplifying their supply chains, reduce sorts from 162 domestic sorts to 24 and the will continue local sales.

(September 15, 2020) All-PAG meeting. Shannon Janzen presented to the 5 CSA public groups on company updates and key issues facing the forest industry.

(October 16, 2021) All-PAG meeting. Don Demems and Shannon Janzen presented to the 5 CSA public groups on company updates and key issues facing the forest industry.

(November 10, 2021) Darwyn Koch reviewed the newly revised Rules of the Road applicable to the TFL Also Sarah Germain reviewed Westen's Monitoring Program.

Indicator 5.2.5 The % of reviews or field walks completed where harvesting is planned consistent with the approved Management Principles along the Sunshine Coast Trail – Local Indicator.

Indicator 5.2.6 Number of people reached through educational outreach – Local Indicator

(Dec 11, 2013) A discussion was held regarding potential options for community engagement and information sharing. Ideas discussed included signage along the SCT, newspaper articles, social media, and presentations to local groups such as council, tourism board, and chamber of commerce.

(Jan 11, 2016) Zac Whyte – Communications Manager with WFP – The New Road Hotline and How We Share the World of Forestry with Others. Zac provided information to the CAG relating to the new wfproadinfo website, the facebook page, Instagram, and the twitter page. These sites are linked. As each operation updates information related to roads and safety each of the sites are updated.
www.wfproadinfo.com

Indicator 6.1.1 Level of participant Satisfaction with the public participation process

Indicator 6.1.2 Evidence of efforts to promote capacity development and meaningful participation in general

Nancy Pezel WFP Area Planner contracted 79.4 ha of brushing, or 25.1% of the 2018 brushing program, to Pa'aje Silviculture Services (Tla'amin Nation forestry crew). The area contracted to this crew is expected to increase in 2019 as their capacity development increases and costs are reduced.

Indicator 6.1.3 Availability of summary information on issues of concern to the public

(Dec 11, 2013) A discussion was held regarding potential options for community engagement and information sharing. Ideas discussed included signage along the SCT, newspaper articles, social media, and presentations to local groups such as council, tourism board, and chamber of commerce.

(Jan 11, 2016) Zac Whyte – Communications Manager with WFP – The New Road Hotline and How We Share the World of Forestry with Others. Zac provided information to the CAG relating to the new wfproadinfo website, the facebook page, Instagram, and the twitter page. These sites are linked. As each operation updates information related to roads and safety each of the sites are updated.
www.wfproadinfo.com

(April 11, 2016) Colin Koszman, Industry Advisor, FP Innovations – The Latest Research in Coastal BC. Colin presented information on the latest research completed by FP Inovations on the Coast. The following projects were discussed: Heli-Logging Planning tool; Grapple Yarding Cameras; Resource Road Groups; Steep Grade Decent Guide; Log Truck configurations; Hemlock Moisture Content; and Embedded Culverts.

(October 17, 2017) Darwyn Koch WFP TFL Forester presented in depth the process for cutting permit and road permit authorizations. The process covered all related work from concept block through to approval from Government. First Nations consultation was also discussed as to how it fits into the process.

(Jan 18, 2017) John Bunning presentation on Visual Landscpae Design process and analysis.

(November 20, 2017) Blake Fougere, MFLNRORD FREP Update and Invaisive Plants. Blake started off his presentation with a brief overview of the Sunshine Coast District. He then reviewed in detail the recent FREP analysis for Stillwater TFL 39 block 1 covering the following topics: small stream management; Stand Level Diversity; Water Quality; Visuals; and stand development monitoring. Cultural Heritage and Wildlife monitoring is planned for upcoming years.

Indicator 6.2.1 Evidence of co-operation with DFA-related workers to improve and enhance safety standards, procedures, and outcomes in all DFA-related workplaces and affected communities

Indicator 6.2.2 Evidence that a worker safety program has been implemented and is periodically reviewed and improved

Indicator 6.2.3 Evidence that the organization has co-operated with other forest-dependent businesses, forest users, and the local community to strengthen and diversify the local economy

(Feb 19, 2014) Andrea from WFP explained the process involved with managing for visual quality using the three cutblocks on Goat Island that she has been working on as an example. These blocks were particularly challenging and involved multiple renditions to achieve a desired result. The complexity involves safety for yarding, not isolating, timber, while ensuring the blocks are actually economically viable.

(Feb 19, 2014) Rudi reviewed the project being completed on the Powell Forest Canoe Route to round-up the driftwood on Horseshoe Lake. This project increased accessibility on the canoe route.

(September 12, 2016) Darwyn Koch WFP TFL Forester discussed with the CAG the Annual Allowable Cut (AAC) Recent Decision. The AAC for TFL39 was re-determined on August 29 by Diane Nicholls, Chief Forester BC. It is set for 10 years. There was a drop which reflects the cuts made to Block 1 with the Community Forest and Tla'amin Treaty agreement. It is now 1.416 million m3 over 5 blocks. For Block 1 and Block 2 there are partitions set. A partition is a restriction on the harvesting. It says that of the annual volume that is allowed for harvest a certain amount must come from some constraint like species or operability or dead and damaged timber. This partition is for operability. For Block 1 and Block 2 1.375 million m3 is allowed. Of that a certain percentage has to be non-conventional wood which is basically heli-wood. The entire TFL39 Block 1 had an operability study on it to identify the conventional ground versus nonconventional (heli). This is now hard wired into their management plan to identify how much land base WFP has in each of the categories and that was used in the determination to figure out how much wood is heli and how much will be harvested by conventional means. Block 1 has a conventional AAC of 380,000 m3 and non-conventional is 89,200 m3 for a total AAC of 469,200 m3

(February 13, 2019) Disscussion at the CAG meeting about the Coastal Forest Sector Revitilization Project. Darwyn Koch (WFP) reviewed some of the key aspects of this Government lead initiative relative to the Coastal Forestry with the CAG.

(March 13, 2019) Presentation by Murray Hall on March 13, 2019. Discussion on both Coastal and Interior challenges related to fibre supply and community stability overtime.

Indicator 7.1.1 Understanding of the nature of Aboriginal Title and Rights.

(September 12, 2016) Mark Sloan, First Nations Advisor, Sunshine Coast Resource District discussed with the CAG Government's role in First Nations consultation in relation to the Tla'amin First Nation, the Sechelt First Nation, and the Klahoose First Nation. Mark also discussed the Tla'amin Treaty and what will be the impact to Forest Licensees. The treaty land is different. It is more of a fee simple title so the Tla'amin Nation has the jurisdictional authority to own, manage, enjoy and benefit from the treaty settlement areas without provincial legislative oversight similar to what any large private land holding would have. Federal and Provincial laws that apply to private land holdings would apply there.

(February 13, 2019) Disscussion at the CAG meeting about the Sechelt First Nation Foundation Agreement. Darwyn Koch (WFP) reviewed some of the key aspects of the Agreement with the CAG.

(February 13, 2019) Disscussion at the CAG meeting about UNDRIP. Darwyn Koch (WFP) reviewed some of the key aspects of UNDRIP with the CAG

Indicator 7.1.2 Evidence of open and respectful communications with Aboriginal communities to foster meaningful engagement, and consideration of the information gained about their Aboriginal title and rights through this process. Where there is communicated disagreement regarding the organization's forest management activities, this evidence would include documentation of efforts towards conflict resolution

Indicator 7.2.1 Evidence of efforts to promote capacity development and meaningful participation for Aboriginal individuals, communities, and forest based companies.

(Dec 11, 2013) Chief Councillor Clint Williams provided an update on the Tla'amin Nation's treaty agreement and forest resources that Tla'amin currently holds. The forest resources they currently hold are: Woodlot 1672, Community Forest Licence, TFL39 takeback, and treaty settlement lands. The total area will provide an AAC of approximately 100,000m3

(Apr 23, 2014) Paul Nuttal, Manager of Strategic Planning and Sarah Ozog, Coordinator of Strategic Partnerships from WFP provided information of the different initiatives being worked on with First Nations. WFP is actively working with First Nations to align interests, learn more about culture and business interests, and partnership building.

Indicator 7.2.2 Evidence of understanding and use of Aboriginal knowledge through the engagement of willing Aboriginal communities, using a process that identifies and manages culturally important resources and values

Indicator 7.2.3 Level of management and/or protection of areas where culturally important practices and acitivities occur

Section 3: Acronyms used in this document

AAC	Allowable Annual Cut
BEC	Biogeoclimatic Ecosystem Classification
BMP	Best Management Practices
CAG	Community Advisory Group
CCFM	Canadian Council of Forest Ministers
CoC	Chain of Custody
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CSA	Canadian Standards Association
DFA	Defined Forest Area
ECA	Equivalent Clearcut Area
EMS	Environmental Management System
FA	Forest Act
FDP	Forest Development Plan
FIA	Forest Investment Account
FPC	Forest Practices Code
FPPR	Forest Planning and Practices Regulation
FRPA	Forest Range and Practices Act
FSP	Forest Stewardship Plan
GAR	Government Actions Regulation
GIS	Geographic Information System
GMO	Genetically modified organism
ISO	International Organization for Standardization
LU	Landscape Unit
MoE	Ministry of Environment (formerly MoELP, MWLAP)
MF	Managed Forest
MFLNROD	BC Ministry of Forests, Lands and Natural Resource Operations and Rural Development
MP	Management Plan
NPP	Net primary production
OGMA	Old Growth Management Area
PEFC	Program for endorsement of forest certification schemes
NSR	Not Satisfactorily Restocked
NTFP	Non-Timber Forest Product
RMZ	Riparian Management Zone
RRZ	Riparian Reserve Zone
SARA	Species at Risk Act

SFM	Sustainable Forest Management
SMZ	Special Management Zone
SP	Silviculture Prescription or Site Plan
SCC	Standards Council of Canada
TFL	Tree Farm License
WHA	Wildlife Habitat Area
WTRA	Wildlife Tree Retention Area

Glossary of Terms

Aboriginal: "aboriginal peoples of Canada' [which] includes Indian, Inuit and Métis peoples of Canada" (Constitution Act 1982 s35(2))

Aboriginal Right: "in order to be an Aboriginal right an activity must be an element of a practice, custom, or tradition (or an element thereof) integral to the distinctive culture of an Aboriginal group claiming that right". [*R. v. Van der Peet*, 1996]

Aboriginal Title: "…is a right to the land itself, is a collective right to the land held by all members of an aboriginal organization. …encompasses the right to use the land pursuant to that title for a variety of purposes, which need not be aspects of those aboriginal practices, cultures and traditions which are integral to the distinctive aboriginal cultures". [*Delgamuukw v. British Columbia, 1997]*

Aboriginal treaty rights "...are those contained in official agreements between the Crown and the native peoples". [*R. v. Badger* 1996]

Accreditation: the procedure by which the Standards Council of Canada (SCC) gives formal recognition that a registrar (certifier) is deemed competent to carry out specific tasks.

Accreditation body: authoritative body that performs accreditation. Note: The authority of an accreditation body is generally derived from government [ISO/IEC 17000]

Adaptive Management: a learning approach to management that recognizes substantial uncertainties in managing forests and incorporates into decisions experience gained from the results of previous actions.

Allowable Annual Cut (AAC): the allowable rate of timber harvest from a specified area of land. The Chief Forester of British Columbia sets the AAC for woodlots, timber supply areas (TSAs) and tree farm licenses (TFLs) in accordance with section 8 of the Forest Act.

At-risk species: see Species-at-risk

Auditor: a person qualified to undertake audits. Note: for SFM registration audit, auditors are qualified according to the requirements set out in CAN-P-14B and CAN-P-1518.

Biogeoclimatic Ecosystem Classification (BEC): developed in BC in 1965, the BEC System classifies areas of similar regional climate, expected climax plant communities and site factors such as soil moisture and soil nutrients. The subzone is the basic unit of this classification system. Within subzones, variants further identify more local climatic factors.

Biogeoclimatic zone: a geographic area having similar patterns of energy flow, vegetation and soils as a result of a broadly homogenous macroclimate.

Biogeoclimatic variant: see Biogeoclimatic Ecosystem Classification.

Biodiversity (Biological Diversity): "the variability among living organisms from all sources, including their inter alia, terrestrial, marine and other aquatic ecosystems and the ecological processes which they are

part; this includes diversity within species, between species and ecosystems" (Environment Canada, Canadian Biodiversity Strategy).

Biomass: the total amount (mass) of living matter in a given ecosystem, population, or sample. Note: *In the context of sustainable forest management, biomass usually refers to plant matter*.

Blue-listed: refers to plants, animals, and plant communities assessed by the BC Conservation Data Center or COSEWIC to be vulnerable.

CAN/CSA-ISO 14001: an internationally recognized environmental management system standard revised in 2004 by the International Organization for Standardization. Note**:** *CAN/CSA-ISO 14001 has been approved as a National Standard of Canada by the Standards Council of Canada.*

Clearcut: a silviculture system that removes the entire stand of trees in a single harvesting operation from an area that is one hectare or greater and at least two tree heights in width. In addition, the silviculture system is designed to manage the area as an even-aged stand. (Forest Practices Code of BC, Operational and Site Planning Regulation).

Certification: the result of a successful certification process in conformance with this Standard, whereby the certification body issues a certification certificate and adds the organization's certification to a publicly available list maintained by the certification body. Note**:** *Certification of a management system is sometimes also called registration.*

Canadian Standards Association (CSA) Standard: refers to CSA Z809-02, a National Standard for Canada for a SFM System. It describes the components and performance objectives of a SFM system that when applied to a DFA will ensure that forest management objectives are set for the critical elements of the CCFM SFM criteria.

Certificate of Registration (Registration Certificate): the official document issued by a registrar to an organization upon successful completion of the registration process, including the registration audit.

Certification/Registration: the result of a successful registration audit to the CSA standard, whereby the registrar issues a certificate of registration and adds the organization's registration to a publicly available list maintained by the registrar. The certification process is described in Annex A of the Z809-02 Standard.

Certification applicant: an organization that has applied to an accredited certification body for certification to this Standard.

Certification audit: a systematic and documented verification process used to obtain and evaluate evidence objectively in order to determine whether an organization meets the SFM requirements of this Standard.

Certification body: an independent third party that is accredited as being competent to certify organizations with respect to nationally and internationally recognized standards.

Certification certificate: the official document issued by a certification body to an organization upon successful completion of the certification process (including the certification audit).Certifier (Registrar): an independent third party that is accredited by the SCC as being competent to register organizations with respect to nationally and internationally recognized standards.

Chief Forester: the assistant deputy minister of the deputy minister of the Ministry of Forests, Lands, and Natural Resource Operations who is responsible for determining allowable annual cuts (AACs).

Coarse woody debris: all large deadwood in various stages of decomposition. Note: Coarse woody debris includes standing dead trees, fallen wood, stumps, and roots.

Coastal Watershed Assessment Procedure (CWAP): assesses the impacts of forest practices on the hydrologic regime of a watershed. In particular, the potential for changes to peak stream flows, accelerated landslide activity, accelerated surface erosion, channel bank erosion and changes to channel morphology as a result of logging the riparian vegetation, and changes to the stream channel interaction from all these processes are assessed.

Complaint: an expression of dissatisfaction, other than an appeal, by any person or organization to a certification body or an accreditation body related to the activities of that body, where a response is expected. Note: In Canada, the accreditation body for certification bodies conducting audits to this Standard is the Standards Council of Canada.

Compliance: the conduct or results of activities in accordance with legal requirements.

Conformance: meeting non-legal requirements such as policies, work instructions or standards (including the CSA standard).

Continual Improvement: the ongoing process of enhancing SFM performance using

(a) experience;

(b) assessment of results;

(c) the incorporation of new knowledge in line with the organization's SFM policy; and

(d) the application of SFM requirements.

Corrective Action: action to eliminate the cause of a detected nonconformity or other undesirable situation. Note: there can be more than one cause for a non-conformity. Corrective action is taken to prevent recurrence, whereas preventative action is taken to prevent occurrence.

Cutblock: is an area within which an agreement holder is authorized to harvest timber as identified within a cutting permit or within the agreement itself (if the agreement does not authorize cutting permits). (Forest and Range Practices Act, Forest Planning and Practices Regulation).

Cutting Permit (CP): authorizes harvesting on a cutblock. CPs are granted by the MFLNROD upon application by licensees. Licensees must also obtain road permits before they can construct roads to access cutblocks. Once the permits are issued, a licensee may then proceed with forest development (i.e., road construction, logging operations). If a site plan is to be prepared, CPs can be applied for prior to completion of the site plan, however, harvesting and road operations must not commence until a site plan has been completed.

Cultural Heritage Resource (CHR): an object, a site or the location of a traditional societal practice that is of historical, cultural or archaeological significance to the province, a community or an aboriginal people. Cultural heritage resources include archaeological sites, structural features, heritage landscape features and traditional use sites.

Defined Forest Area (DFA): a specific area of forest, including land and water (regardless of ownership or tenure) to which the requirements of the CSA standard apply. The DFA may or may not consist of one or more contiguous blocks or parcels.

Deforestation: "clearing an area of forest for another long-term use (The State of Canada's Forests 2001/2002).

DFA-related worker: any individual employed by the organization to work for wages or a salary who does not have a significant or substantial share of the ownership in the employer's organization and does not function as a manager of the organization.

District Manager: the manager of a Forest Service district office, with responsibilities as outlined in the Forest Act, Ministry of Forests Act, Range Act, Forest Practices Code of British Columbia Act and Forest and Range Practices Act.

Ecological Cycles: refers to the major nutrient cycles (i.e. carbon and nitrogen) and the hydrological cycle.

Ecosystem: a dynamic complex of plants, animals and micro-organisms in their non-living environment, interacting as a functioning unit. Note: "the term ecosystem can describe small-scale units, such as a drop of water, as well as large-scale units, such as the biosphere" (Environment Canada, Canadian Biodiversity Strategy).

Element: the subcategory used to define the scope of each SFM criterion. Note: Each SFM criterion contains several elements. The SFM elements were derived from the national-scale elements developed by the CCFM for more specific local applications.

Environment: the surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans and the interrelations of these elements.

Environmentally Sensitive Area (ESA): area requiring special management attention to protect important scenic values, fish and wildlife resources, historical and cultural values, or other natural systems or processes. ESAs include unstable soils that may deteriorate unacceptably after harvesting, and areas of high value to non-timber resources such as fisheries, wildlife, water and recreation.

Environmental Management System (EMS): a structured system for identifying and ranking the environmental risk associated with management activities; creating and implementing control methods to manage that risk; monitoring and assessing performance; and taking corrective action to address deficiencies under a continual improvement program.

Fish habitat "spawning grounds and nursery, rearing, food supply, and migration areas on which fish depend directly or indirectly to carry out their life processes". [Fisheries Act, 1985]

Focal species: species that warrant special conservation attention and are thus used to guide the management of ecosystems to conserve biodiversity. Note: Criteria for the selection of focal species can include ecological, socio-cultural, scientific, and economic considerations.

Forecast: An explicit statement of the expected future condition of an indicator.

Forest: an ecosystem dominated by trees and other woody vegetation growing more or less closely together, its related flora and fauna, and the values attributed to it.

Forest Condition: the state of the forest ecosystem as determined by a range of variables associated with forest structure, composition and processes.

Forestland: land supporting forest growth or capable of doing so, or, if totally lacking forest growth, bearing evidence of former forest growth and now in disuse.

Forest Practices Code (FPC): the `Forest Practices Code' is a term commonly used to refer to the former Forest Practices Code of British Columbia Act, the regulations made by Cabinet under the act and the standards established by the chief forester. The term may sometimes be used to refer to the guidebooks as well.

Forest Plantations: tree stands established by planting or seeding often with one or few species, intensively managed exclusively for wood production, and which lack most of the key characteristics of natural forests.

Forest Stewardship Plan (FSP): a FSP is an operational plan under the Forest and Range Practices Act, which addresses the 11 FRPA objectives. It is approved by the Minister of Forests and Range. The FSP allows for delineation of Forest Development Units (FDUs) that demonstrate areas of future forest operations, and the results and strategies that apply.

Forest and Range Practices Act (FRPA): the Act and regulations introduced Jan. 31, 2004. Any activities already approved under the existing Forest Practices Code may continue and are governed by the Forest Practices Code of British Columbia Act and its regulations. After Dec. 31, 2005, all planning and on-the-ground work must comply with the Forest and Range Practices Act and regulations.

Free Growing (free to grow): a stand of healthy trees of ecologically suitable, commercially valuable species, the growth of which is not impeded by competition from plants, shrubs or other trees. Silviculture regulations and stocking standards define the criteria (e.g., species, density and size) that a regenerating forest must meet to be declared free growing.

Genetically modified organism (GMO) an organism that, through human intervention in a laboratory, has had its genome or genetic code deliberately altered through the mechanical insertion of a specific identified sequence of genetic coding material (generally DNA) that has been either manufactured or physically excised from the genome of another organism. Note: Genetic modification can be used to alter a wide range of traits, including insect and disease resistance, herbicide tolerance, tissue composition, and growth rate (adapted from Alberta Forest Genetic Resources Council statement).

Guidebook: guidebooks were one of the four components of the Forest Practices Code. Guidebooks consist of guidelines and recommendations intended to help users exercise their professional judgement in developing site-specific management strategies and prescriptions designed to accommodate resource management objectives. Guidebooks constitute part of the “non-legal” realm of FRPA, and MFR Guidebooks can be used or other guidance developed using appropriate expertise.

Higher Level Plan: some of the objectives for forest resources in a strategic land use plan can be “declared” as a legal requirement under the Government Actions Regulation (GAR).

Identified Wildlife: Identified Wildlife are species at risk that have been designated by the Chief Forester (Ministry of Forests) and Deputy Minister (MoE) as requiring special management attention during forest and range operational planning or higher level planning.

Identified Wildlife Management Strategy (IWMS): Its goal is to preserve elements of biodiversity that are not addressed through other components of the FPC. For the most part these are threatened and endangered species (i.e., Vancouver Island Marmots) or plant communities (i.e., Douglas-fir / Garry Oak - onion grass). The Identified Wildlife Management Strategy provides foresters and ranchers with best management practices for managing habitats for these species and plant communities. The management practices must be followed within areas set aside for a particular species or plant community. These areas are called "wildlife habitat areas" and are officially designated under the Government Actions Regulation (GAR).

Independent (impartial): free from bias. Note: a registrar is not considered independent (impartial) if, in the two years preceding an audit, it or any of its personnel, subcontractors or relate bodies provided or have provided assistance or consulting services to the organization being audited and, as a result of the audit, certified (see definition of Related body).

Indicator: a variable that measures or describes the state or condition of a value.

Interested Party: an individual or organization interested in and affected by the activities of the management and DFA.

Invasive alien species: plants, animals, or micro-organisms that have been introduced by human action outside their natural past or present distribution, and whose introduction or spread threatens the environment, the economy, or society, including human health. [CFIA, 2006]

ISO 14001: an internationally recognized environmental management system standard published in 1996 by the International Organization for Standardization. The ISO 14001 Standard has been approved as a National Standard of Canada by the Standards Council of Canada.

Landing: an area modified as a place to accumulate logs before they are transported.

Landscape level: a watershed, or series of interacting watersheds or other natural ecological units. This term is used for conservation planning and is not associated with visual landscape management.

Landscape unit: a planning area, designated by a district manager under the FPC, delineated on the basis of geographic and/or ecological features such as watersheds. Once a district manager establishes a landscape unit, the district manager must also establish objectives. Typically they cover a watershed or series of watersheds, and range in size from 5000 to 100,000 ha.

Long-Term: in the context of making forecasts of forest structure and composition, at a minimum, twice the average life expectancy of the predominant trees in a DFA , up to a maximum of 300 years.

Managed Forest (MF): forest land that is being managed under a forest management plan. North Island's MF 19 is an area of privately owned land designated for commercial forestry.

Management Plan (MP): TFL management plans usually cover a period of five years and specify proposed management to establish, tend, protect and harvest timber resources and to conserve other resource values. MPs include inventories of the forest, recreation, fisheries, wildlife, range and cultural heritage resources in the tree farm License area. They include a timber supply analysis that analyzes the short term and long term availability of timber for harvesting in the tree farm License area, including the impact of management practices on the availability of forest values.

Mature forest: generally, stands of timber where the age of the leading species is greater than the specified cutting age. Cutting ages are established to meet forest management objectives. In the Port McNeill SFM Plan, mature is defined as forest areas established before 1864 and includes old growth

Migratory bird: the sperm, eggs, embryos, tissue cultures, and other parts of a migratory bird as defined in the Migratory Birds Convention Act, 1994.

Native species: a species that occurs naturally in an area; a species that is not introduced.

Non-Timber Forest Products (NTFPs): all forest products except timber, including other materials obtained from trees such as resins and leaves, as well as any other plant and animal products.

Not Satisfactorily Restocked (NSR): productive forest land that has been denuded and has not yet been regenerated to the specified stocking standards for the site.

Objective: a broad statement describing a desired future state or condition of a value.

Old growth: a forest that contains live and dead trees of various sizes, species, composition and age class structure. Old-growth forests, as part of a slowly changing but dynamic ecosystem, include climax forests but not sub-climax or mid-seral forests. The age and structure of old growth varies significantly by forest type and from one biogeoclimatic zone to another. As a rough measure, forests on the BC Coast that are aged 250 years or older and exhibit few or no signs of human intervention are generally termed old growth. (See also second growth and mature.)

Old-growth Management Area (OGMA): an area established under a higher-level plan that contains, or is managed to replace specific structural old-growth attributes and which are mapped out and treated as special management areas.

Opening: usually used synonymously with cutblock (see above) to include all of an area that has been harvested or is designated for harvesting, including the trees retained singly or in groups within the area. Less often, used to describe the actual cleared area(s) within a cutblock.

Organization: a company, corporation, firm, enterprise, authority, or combination thereof, whether incorporate or not, public or private, that has its own functions and administration and that, for the purpose of the CSA standard, applies for certification. Note: for organizations with more than one operating unit (for example, a division), a single operating unit may be defined as an organization.

Permanent Access Structure: a built structure, including a road, bridge, landing, gravel pit, etc.

Personnel: management, contractors and DFA-related workers employed by the organization.

Plantation: a forest area that does not follow natural succession patterns due to reforestation involving high-intensity silviculture practices. Notes: (1) Plantations are highly managed treed areas with few natural characteristics; they are generally managed for a single purpose. (2) Not all areas subjected to intensive silvicultural treatments are plantations. WFP manages plantations utilizing native species that meet BEC and legal requirements.

Preventative Action: action to eliminate the cause of a potential non-conformity or other undesirable. Note: There can be more hat one cause for a potential non-conformity. Preventative action is taken to prevent occurrence whereas corrective action to take to prevent recurrence.

Productive Forest: forest land that is capable of producing a merchantable stand of timber within a defined period of time.

Productivity: the natural ability of a forest ecosystem to capture energy, support life forms and produce goods and services.

Protected area: an area of land and/or sea specifically dedicated to the protection and maintenance of biological diversity and of natural and associated cultural resources, and managed through legal or other effective means. [IUCN, 1994]

Protected Area Strategy (PAS): a BC strategy to develop and expand the provincial protected area system. This includes representative examples of natural diversity, and special, natural, recreational, or cultural heritage features.

Red-listed: refers to plants, animals and plant communities assessed by the BC Conservation Data Centre or COSEWIC to be extirpated, endangered or threatened.

Reforestation: re-establishment of trees on forested land following natural (e.g., fire) or human (e.g., timber harvest) disturbance, by natural or artificial (e.g., planting) means.

Regional Land Use Plans (RLUP): the regional land use plan (RLUP) is a strategic land use plan that defines land and resource values, and provides goals for these values at a regional level. It provides a strategy to maintain and/or protect these values by establishing land-use categories, which define the type of resource management that will occur there. The Vancouver Island Land Use Plan is an example.

Registrar/Certifier: an independent third party that is accredited by the SCC as being competent to register organizations with respect to nationally and internationally recognized standards.

Registration Applicant: an organization that has applied to an accredited registrar for certification to the CSA standard.

Registration Audit: a systematic and documented verification process used to obtain and evaluate evidence objectively in order to determine whether the organization meets the SFM requirements set out in the CSA standard.

Registration/Certification: the result of a successful registration audit to the CSA standard, whereby the registrar issues a certificate of registration and adds the organization's registration to a publicly available list maintained by the registrar. The certification process is described in Annex A of the Z809-02 Standard.

Related Body: a body linked to the registrar/certifier by common ownership or directors, contractual arrangement, a common name, informal understanding, or other means such that the related body has a vested interest in the outcome of an audit or has the potential ability to influence the outcome of an audit.

Reserve Zones: zones where timber harvesting is not permitted.

Riparian: an area of land adjacent to a stream, river, lake or wetland that contains vegetation that, due to the presence of water, is distinctly different from the vegetation of adjacent upland areas.

Riparian Management Zone (RMZ): an area of a width adjacent to streams or Riparian Reserve Zones in which management objectives for riparian or habitat attributes are considered. The width of these zones is determined by attributes and classification of streams, wetlands or lakes, and adjacent terrestrial ecosystems.

Riparian Reserve Zone (RRZ): an area of a width adjacent to streams in which harvest is restricted by regulation. The width of these zones is determined by attributes and classification of streams, wetlands or lakes, and adjacent terrestrial ecosystems.

Sensitive Soils: forest land areas that have a high to very high hazard (coastal forests) for soil compaction, erosion, or displacement.

Seral stage: an identifiable stage of vegetative recovery following a disturbance. Note: Disturbances include fire, blowdown, and timber harvest.

SFM Performance: the assessable results of SFM as measured by the level of achievement of the targets set for the DFA.

SFM Policy: a statement by the organization of intentions and principles in relation to SFM, which provides a framework for objectives, targets, practices and actions.

SFM Requirements: the public participation, performance, and system requirements found in Clauses 4-7 of the CSA standard.

SFM System: the structure, responsibilities, practices, procedures, processes and time frames set by a registrar for implementing, maintaining and improving SFM.

Short-term Operational Plans: annual or five-year plans.

Silviculture: the art and science of controlling the establishment, growth, composition, health and quality of forests and woodlands. Silviculture entails the manipulation of forest and woodland vegetation in stands and on landscapes to meet the diverse needs and values of landowners and society on a sustainable basis.

Silviculture Prescription: a site-specific operational plan (under FPC) that describes the forest management objectives for harvesting and reforestation.

Silvicultural system: a planned program of treatments throughout the life of the stand to achieve defined objectives. A silviculture system includes harvesting, regeneration and stand tending. It covers all

activities for the entire length of a rotation or cutting cycle. In BC this includes eight major categories: clearcut, clearcut with reserve, patch-cut, coppice, seed tree, shelterwood, retention and selection.

Site Plan (SP): a site-specific operational plan (under FPC or FRPA) that replaces the Silviculture Prescription. Content requirements are specified in regulation. Site Plans under the FPC are similar in content to the Silviculture Prescription. Site Plans under FRPA are designed to be more "results based" by describing how the results and strategies specified within the FSP apply to the site rather than specifying the results and strategies within the document itself.

Snag: A large, standing dead tree.

Special Management Zone (SMZ): an area under a strategic land use plan, where special management is needed to address sensitive values such as fish and wildlife habitat, visual quality, recreation, tourism and cultural heritage features. The management intent of SMZs is to maintain these values while allowing some level of compatible resource extractive use and development.

Species-at-risk: the species considered "at risk" by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) are listed in five categories: Special Concern, Threatened, Endangered, Extirpated, and Extinct. These include, but are not limited to, Red and Blue listed species. Species at risk are found within the schedules of the federal Species at Risk Act.

Species At Risk Act (SARA): legislation introduced in order to protect species within Canada identified as "Species at Risk" under SARA.

Standard: a document, established by consensus and approved by a recognized body, which provides, for common and repeated use, rules, guidelines or specifications for activities or their results, aimed at the achievement of the optimum degree of consistency in a given context. Note: standards should be based on the consolidated findings of science, technology and experience and should be aimed at the promotion of optimum community benefits.

Stand level: level of forest management at which a relatively homogenous (usually small) land unit can be managed under a single prescription, or a set of treatments, to meet well-defined objectives.

Strategy: a coordinated action set designed to meet established targets.

Strategic Land Use Plans: a plan at the regional, sub-regional, and, in some cases, at the local level, which results in land use allocation and/or resource management direction. Strategic land use planning at the regional and sub-regional level involves the preparation of resource management zones, objectives and strategies. Portions of these strategic plans may become designated as higher level plans under the FPC, if they meet set criteria.

Sustainable Forest Management (SFM): management to maintain and enhance the long-term health of forest ecosystems, while providing ecological, economic, social, and cultural opportunities for the benefit of present and future generations.

Sustainable Forest Management Performance: the assessable results of SFM as measured by the achievement or lack thereof of established objectives for a defined forest area.

Sustainable harvest level: the harvest level of forest products that, with consideration for ecological, economic, social, and cultural factors, leads to no significant reduction of the forest ecosystem's capacity to support the same harvest level in perpetuity.

Target: a specific statement describing a desired future state or condition of an indicator. Targets should be clearly defined, time limited and quantified if possible.

Tenure: the terms under which a forest manager or owner possesses the rights and assumes the responsibilities to use, harvest or manage one or more forest resources in a specified forest area for a

specified period of time. Note: private ownership of forestland is the strongest form of tenure as the rights and obligations rest solely with the forest owner. Forest tenures on public land in Canada fall into two main categories: area-based and volume-based. Area-based tenures not only confer timber harvest rights but also usually oblige the tenure holder to assume forest management responsibilities. Volume-based tenures normally give the holder the right to harvest specific volumes of timber in areas specified by the landowner or manager, but can also oblige holders to assume forest management responsibilities.

Timber Supply Analysis: an assessment of future timber supplies over long planning horizons by using timber supply models for different scenarios identified in the planning process. Timber supply analyses forecast the long term affects of management options on timber and forest values availability.

Timber supply area (TSA): an integrated resource management unit established in accordance with section 6 of the Forest Act.

Top Management: persons with decision-making authority regarding SFM policy, resource allocation and planning within the DFA.

Total Resource Plan: a plan for long-term use of the forest development that guides resource use, such as logging, road building and recreation activities, over an entire area (such as a watershed); and that describes how approved objectives for identified resource values will be achieved on the ground.

Tree Farm License (TFL): privately managed sustained yield units. TFLs are designed to enable owners of Crown-granted forestlands and old temporary tenures or the timber Licenses, which replace them; to combine these with enough unencumbered Crown land to form self-contained sustained yield management units. These Licenses commit the licensee to manage the entire area under the general supervision of the MFLNROD. Cutting from all lands requires MFLNROD approval through the issuance of cutting permits or road permits. TFLs should not be confused with Tree Farms under the Taxation Act; though some Tree Farm land (Crown-granted) may comprise a part of the TFL. A TFL is renewable and has a term of 25 years.

Value: a DFA characteristic, component or quality considered by an interested party to be important in relation to a CSA element or other locally identified element.

Visual Quality Objective (VQO): an approved resource management objective that reflects a desired level of visual quality based on the physical and sociological characteristics of the area; refers to the degree of acceptable human alteration to the characteristic landscape.

Watershed: the total land area from which water drains into a particular stream or river. [Hubbard et al., 1998]

Wetlands: areas that are seasonally or permanently waterlogged and characterized by vegetation adapted for life in saturated/flooded conditions. Wetlands can be treed, shrubby or open and include bogs, fens, swamps, marshes and shallow open water areas. Some wetlands are stagnant systems (e.g., bogs), slow flowing (e.g., fens, swamps), or have fluctuating water levels (e.g., marshes, shallow open water).” (2016, p.17 CSa Standard)

Wildlife Habitat Areas (WHA): designated areas of land and water that support specific wildlife or groups of wildlife.

Wildlife Tree: a standing live or dead tree with particular values, such as old-growth characteristics, tree size or structure, which provide or recruit valuable habitat for the conservation or enhancement of wildlife.

Wildlife Tree Retention Area (WTRA): wildlife trees retained in or around cutblocks to achieve stand level biodiversity strategies.

Windthrow: trees uprooted as a result of wind events.

Yarding: in logging, the hauling of felled timber to the landing or temporary storage site from where trucks (usually) transport it to the mill site. Yarding methods include cable yarding, ground skidding and helicopter yarding.

Section 4: SFM Criteria, Values, Objectives, Indicators, Targets (VOITS) and Annual Performance Reporting

This section of the SFM Plan describes Stillwater Forest Operation's (SFO) SFM Values, Objectives, Indicators, and Targets. As appropriate, an Acceptable Variance is provided for the near term performance level of each Target and a forecasted future condition is provided for each Indicator. The section is organized according to the Criteria for Sustainable Forest Management, which was developed by the Canadian Council of Forest Ministers and adapted for the Canadian Standards Association's Sustainable Forest Management standard (CAN/CSA-Z809-16).

As further explanation of the organization of this section:

- The **Criteria** (e.g., below: 1.0 Conservation of Biological Diversity) and **Critical Elements** (e.g., 1.1 Ecosystem diversity) and their accompanying statements are derived from *Defining Sustainable Forest Management: A Canadian Approach to Criteria and Indicators* (Canadian Council of Forest Ministers, Ottawa, 1995).
- The subsidiary **Values**, **Objectives, Indicators, Targets**, **Acceptable Variances** and **Forecasts** were developed for this plan during discussions among CAG members, Stillwater Forest Operation's staff and other Western Forest Products staff.

As used in this plan:

- **Values** are DFA characteristics, components, or qualities considered by the advisory groups to be important in relation to a CSA SFM element or other locally identified element.
- **Objectives** are broad statements describing a desired future state or condition of a value.
- **Indicators** are variables that measure or describe the state or condition of a value.
- **Targets** are specific statements describing a desired future state of condition of an indicator. Where possible, targets are clearly defined, time-limited and quantified.
- **Acceptable Variances** specify the range of performance results (+ and/or – relative to the Target) that is deemed to be an acceptable outcome. A result outside this range does not always indicate unacceptable performance. (For example, it could reflect: the impact of an uncontrollable event, such as a natural disaster; the fact that the Target was based on poor quality or inadequate data; or the effects of a responsible choice between two competing Objectives.) A result outside the Acceptable Variance range does, however, require review, assessment and, possibly, a revision of either the objective, target or management practices.
- **Forecasts** are explicit statements of the expected future condition of an indicator.
- **Legal References** are provided where they exist.

Performance Reporting

On an annual basis, the SFM Plan will be updated to include performance reporting information in order to facilitate review of the actual outcomes of each indicator. Indicators are reported on an annual basis from January 1 – December 31. The monitoring report (Data Set) is completed by Stillwater Forest Operations Management, and presented for review to CAG each year. Western Forest Products maintains a matrix which assigns the responsibilities of each indicator to key staff.

Annual internal audits will also evaluate the quality, validity, and meaningfulness of a sample of the locally determined indicators and targets.

Summary of Changes

The 2018 SFM Plan is a new plan designed to meet the requirements of the new CSA Z809-16 Standard and replaces all previous versions.

Indicator 1.1.1 Ecosystem area by type

Element: 1.1 Ecosystem diversity *Conserve ecosystem diversity at the stand and landscape levels my maintaining the variety of communities and ecosystems that naturally occur in the DFA.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Older seral stages of each ecosystem types	The old seral stage of each ecosystem type can be found on the DFA.	**1.1.1** Ecosystem area by type	The old seral stage of each ecosystem type (BEC) in each landscape unit of the DFA is within 95% the levels recommended in the Biodiversity Guidebook [September 1995] or approved Landscape Unit Plans for the DFA by the year 2218.	By the year 2228.

History

This is a core indicator in the CSA Z809-16 standard.

Justification

The principle of providing a percentage of the landbase in each of the three seral stages is to increase the probability that all native species and ecological processes for biodiversity will be maintained. For most forest organisms, the habitat needs will be met by maintaining a variety of patch sizes, seral stages, and forest stand attributes and structures across the various ecosystems and landscapes. Old growth or old seral is generally recognized as forests 250 years of age and older.

The DFA has a logging history of well over one hundred years as well as numerous significant stand replacing fire events. The seral stage distribution is therefore weighted towards early and mature age classes in many of the landscape units. Landscape unit planning has been completed for almost all of the DFA and Old-growth management areas (OGMAs) have been identified that include much of the remaining old seral forest as well as mature forest. The target is based on the number of years required for the OGMAs within the DFA to reach an old seral stage in order to achieve the levels specified in the Biodiversity Guidebook or approved landscape Unit Plans.

The target date of 2218 is based on the number of years required for younger stands to grow and achieve the old seral stage for all of the landscape units and ecosystem types. Some landscape units and ecosystem types are forecast to meet their targets prior to this date. The variance is meant to help account for minor revisions to Old Growth Management Areas or other minor natural disturbances that may affect the old seral stage within the DFA. If a significant stand replacing natural disturbance were to occur in the old seral forest (i.e. a large fire) achievement of the target by 2218 would likely be affected.

Current Status & Interpretation

At the end of 2020, the excess or deficit of the old seral stage for each ecosystem type on the DFA is summarized in the table below. The amount of excess old-growth is based on meeting 100% of the DFA old seral target and the deficit is based on meeting 95% of the DFA old seral target.

LU	BEC	LU OGMA Target	LU OGMA Target	Available OG 2020 (ha)			Excess (ha) (100% of DFA OG Target)	Forecast
		%	(ha)	0-120 0-80*	121-250 81-250*	250+	Deficit (ha) (95% of DFA OG Target)	Target Achievement (Year)
Bunster	CWH dm	9	56	1290	2061	75	19	
	CWH vm2	13	178	1110	606	309	131	
	MH mm1	19	162	410	22	437	275	
Haslam	CWH dm	9	49	953	908	35	-14	2162
	CWH vm2	13	14	346	91	16	2	
	CWH xm1	9	14	39	45	0	-14	2199
	MH mm1	19	22	93	0	8	-14	2194
Lois	CWH dm	9	739	6941	3703	154	-585	2204
	CWH vm2	13	513	5118	1266	511	-2	2104
	CWH xm1	9	0	152	95	0	0	
	MH mm1	19	483	2230	70	1513	1030	
Powell Daniels	CWH dm	9	67	358	324	36	-31	2171
	CWH vm 1	13	618	3490	744	1417	799	
	CWH vm 2	13	480	1241	230	2314	1834	
	MH mm1	19	250	149	14	1115	865	
Powell Lake	CWH dm	9	654	3211	6672	14	-640	2177
	CWH vm 1	13	266	1508	667	278	12	
	CWH vm 2	13	840	3868	2557	1941	1101	
	MH mm1	19	639	1349	64	3307	2668	

The summary of area by old seral stage for ecosystem type on the DFA since 2010 (current DFA) based on 100% of the target is as follows:

LU	BEC	DFA OG Target (ha)	Excess or Deficit 2014 (ha)	Excess or Deficit 2015 (ha)	Excess or Deficit 2016 (ha)	Excess or Deficit 2017 (ha)	Excess or Deficit 2018 (ha)	Excess or Deficit 2019 (ha)	Excess or Deficit 2020 (ha)	Excess or Deficit 2021 (ha)
Bunster	CWH dm**	**56**	18	21	21	21	20	20	20	19
	CWH vm**	**178**	118	119	135	134	134	134	134	131
	MH mm1**	**162**	275	273	277	266	275	275	275	275
Haslam	CWH xm	**49**	-14	-14	-14	-14	-14	-14	-14	-14
	CWH dm	**14**	-1	-1	-3	-5	-5	-14	-14	-14
	CWH vm	**14**	2	2	2	2	2	2	2	2
	MH mm1	**22**	-13	-14	-14	-14	-14	-14	-14	-14
Lois	CWH xm	**739**	0	0	0	0	0	0	0	0
	CWH dm	**513**	-541	-539	-588	-589	-584	-585	-586	-585
	CWH vm	**0**	-3	-11	-31	-27	-10	0	-3	-2
	MH mm1	**483**	980	975	977	981	944	1048	1046	1030
Powell Daniels	CWH xm**									
	CWH dm**	**67**	-27	-26	-30	-30	-30	-31	-31	-31
	CWH vm1**	**618**	830	831	842	810	799	801	940	799
	CWH vm2**	**480**	1849	1851	1855	1846	1836	1834	1834	1834
	MH mm1**	**250**	867	866	866	866	865	865	865	865
Powell Lake	CWH xm									
	CWH dm	**654**	-605	-605	-604	-604	-604	-640	-640	-640
	CWH vm1	**266**	-30	-31	-31	-56	-56	-56	12	12
	CWH vm2	**840**	535	511	533	514	500	499	1089	1101
	MH mm1	**639**	1620	1615	1631	1620	1609	1610	2636	2668

CWH xm 1 = Coastal western hemlock very dry maritime
CWH dm = Coastal western hemlock dry maritime
Cwh dm = Coastal western hemlock dry maritime
CWH vm 1= Coastal western hemlock very moist submontane
CWH vm 2 = Coastal western hemlock very moist montane
MH mm1 = Mountain hemlock moist maritime windward

*= These Landscape Units are classified “Intermediate” for bio-diversity emphasis.
The other Landscape Units are classed as “low” for bio-diversity emphasis.

Performance

2021: SFO met the variance for 2021. Due to the history of logging and natural fires occurring between 1880 and 1930, a lot of the CWH dm and xm sites are in deficit of old timber (> 250 years). Harvesting of old timber in these subzones is not completed. Also, In July 2021, Tla'amin First Nation has requested that no age class 9 stands be harvested in the TFL until such time as the IRMP is developed for their traditional territory, except for 2 old growth blocks where we had F&B inventory (BT-661 and ST-060).

2020: SFO met the variance for 2020. Notable increases in Old Forest in the Powell Lake Landscape Unit for the CWH vm1, CWH vm2, and the MH mm1.

2019: SFO met the variance for 2019. Due to the history of logging and natural fires occurring between 1880 and 1930, a lot of the CWH dm and xm sites are in deficit of old timber. Harvesting of old timber in these subzones is generally not completed other than for road access and blowdown timber in Age Class 9.

2018: SFO met the variance for 2018.

2017: SFO met the variance for 2017.

2016: SFO met the variance for 2016.

2015: SFO met the target for 2015. The CWH vm1 in the Lois LU in the Powell Lake LU showed a small increase in deficit for the short-term. This is due to the harvesting of small areas typed as OG in the forest cover that are not located within OGMA's.

2014: SFO met the target for 2014. The results indicate that that at the end of 2014, the old seral stage of each ecosystem type in each landscape unit continues to trend towards the target. The CWH dm in the Lois LU and the CWH vm1 in the Powell Lake LU showed a small increase in deficit for the short-term. This is due to the harvesting of small areas typed as OG in the forest cover that are not located within OGMA's.

2013: SFO met the target for 2013. The results indicate that that at the end of 2013, the old seral stage of each ecosystem type in each landscape unit continues to trend towards the target. Every BEC showed a continued decrease in the amount of deficit where they exist.

2012: SFO met the target for 2012. The results indicate that that at the end of 2012, the old seral stage of each ecosystem type in each landscape unit continues to trend towards the target. An update to the forest cover of roads, landslides etc. was completed for Management Plan #9 and minor OGMA amendments completed will cause some variation in the results. There is a significant change to the hectares in the Haslam LU due to the completion of the government takeback of tenure. The only BEC showing a small increase in deficit is in the CWH dm in the Powell Daniels LU.

2011: SFO met the target for 2011. The results indicate that that at the end of 2011, the old seral stage of each ecosystem type in each landscape unit continues to trend towards the target. An update to the forest cover of roads, landslides etc. and an update to the government BEC layers will affect the resulting data in 2011. The Lois LU in the CWH vm shows an increase in deficit from 65 to 102 hectares. There

was no old growth harvested in the CWH vm in 2011 and therefore this shift is attributed to the forest cover and BEC updates.

2010: SFO met the target for 2010. The results indicate that that at the end of 2010, the old seral stage of each ecosystem type in each landscape unit continues to trend towards the target. In each instance the amount of old seral forest deficit either stayed the same or decreased.

Strategies & Implementation

Old-growth management areas identified through landscape unit planning serve as foundation blocks that ensure representative pieces of ecosystem types in the older seral stages are preserved for the long term. Landscape unit planning is complete across the DFA except for the Haslam Landscape Unit where old-growth is retained through the non-spatial old-growth order. There are draft OGMAs in the Haslam landscape Unit and these were used as the basis for the DFA target.

Forecasts

It is expected that the target will be met because sufficient area has been identified within OGMAs to achieve the targets specified in the approved Landscape Unit Plans. Based on the age of the stands within these OGMAs these targets are all forecast to be met by the year 2204. The year that the targets will be achieved for each landscape unit and ecosystem type has been forecast and is summarized in the table above.

In trending towards the targets there may be years where the old seral deficit will increase. This is due to some harvesting in the old seral stage taking place outside of the designated OGMAs.

A key assumption is that no major event will occur (e.g., very large wildfire) that would dramatically alter the current old seral class distribution within the DFA.

Details/Data Set

The biogeoclimatic zone variants are used as the basis for defining ecosystem types. This is consistent with the TFL Management Plans approved by the province.

The landscape units and ecosystem types with deficits is based on 95% of the DFA old seral target because of the scale of the GIS data and minor forest cover inconsistencies. There are thousands of forest cover polygons making up the old growth management area data set. If one of these polygons has an age of 5 years for example then the forecast provides for a date of another 250 years to achieve the old seral targets when this actually isn't the case. It was determined that by completing the forecast based on 95% of the target then this would remove these inconsistent forest cover polygons from the dataset and an accurate forecast could be achieved.

The landscape unit (LU) old-growth target is the overall target for the entire landscape unit. In some instances the DFA only covers a portion of the entire landscape unit. The DFA old-growth target is therefore the target amount specific to the DFA. The amount specific to the DFA is determined through the landscape unit planning process which looks at the distribution of ecosystem types across a very large area to ensure they are appropriately represented. For example, each ecosystem type may not be evenly distributed throughout the entire landscape unit and therefore the DFA specific target may be proportionately higher or lower than the average target for the entire landscape unit.

Forest cover data is maintained in GIS layers along with ecosystem information. The intercept of the ecosystem types with the forest inventory information is then grouped by seral stages defined based on age as follows:

Seral Stage	Definition
Early	0 to <40

Mid	40 to 80 (40 to 120 in MH)
Mature	81 to 250 (121 to 250 in MH)
Old	>250

Monitoring

To monitor performance on this indicator, a number of parameters must be monitored or maintained for the DFA:

- The ecosystem profile of the harvested areas based on their location
- Forest inventory over time (adjusted for age, for annual harvested area and for roads constructed)

The distribution of seral stages for each ecosystem types on the DFA is determined through a GIS exercise.

The primary means to maintain the inventory is through the entry of activity information in CENFOR by the Timberlands Operations. For stands not in CENFOR, their age is corrected manually.

Indicator 1.1.2 Forest area by species composition

Element: 1.1. Ecosystem diversity *Conserve ecosystem diversity at the stand and landscape levels my maintaining the variety of communities and ecosystems that naturally occur in the DFA.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The species composition of the forest on the DFA	The overall species composition of the productive forest on the DFA remains stable.	**1.1.2** Forest area by species composition.	The forest area (ha) by leading species composition remains within 10% of the baseline on a 5 year rolling average by species.	10% (i.e. up to 20%) over the 5 year rolling average.

History

This was a new core indicator in 2010, and continued in 2016 under Z809-16 CSA Standard.

The baseline for this indicator has changed again in 2012 with the final removal of the Bill 28 take back.

February 9, 2022 CAG Meeting: The Target and Variance has been adjusted as suggested during the 2021 Internal Audit. Cedar is under-represented in the inventory. As such the 2012 Baseline estimate is not achievable given the prior Target and Variance. Also, reporting out on “Other Species & NSR” will not be continued as these represent for a very small proportion of the species and have proven difficult to meet the 2012 Baseline targets. Following the next TFL Management Plan (2026), the Baseline targets will be reassessed and adjusted to the current inventory.

Justification

For many species, if the habitat is suitable, populations will be maintained. Two key characteristics of forest ecosystems are the community types, as driven largely by the species composition of the overstorey, and community seral stages, as driven by succession and disturbance processes. These factors are strong predictors of the biotic communities that will inhabit both forest stands and the entire forest landscape.

Maintaining a stable species composition over time helps ensure species are not displaced through management activities. The 5% deviation from the baseline provides for the temporary species shift that can occur in the early stage of stand establishment and development.

The variance is meant to help account for temporary deviations engendered by operational focus on certain markets as well as possible reforestation failures due to browsing pressures or health issues.

Climate change may come to affect this target in the long term.

Current Status & Interpretation

The distribution of forest stands by percentage of area for leading species on the DFA is as follows:

Leading Species	2008 DFA Profile	New Baseline: 2012 DFA Profile	2017	2018	2019	2020	2021
western hemlock (Hw)	35.4%	36.3%	37.6%	38.1%	37.8%	37.5%	38.8%
western red cedar (Cw)	8.4%	7.1%	8.2%	8.1%	8.0%	8.1%	7.9%
amabilis fir (Ba)	8.3%	9.6%	9.1%	8.9%	9.0%	8.9%	9.0%
red alder, maple (Dr)	4.6%	3.3%	3.2%	3.2%	3.2%	3.2%	3.2%
Douglas-fir (Fd)	40.2%	38.1%	38.0%	37.7%	38.3%	38.1%	38.0%
yellow cedar (Yc)	2.5%	3.2%	2.6%	2.7%	2.8%	2.9%	2.9%

The following table illustrates the minimum and maximum 20% Variance by species group.

Leading Species	New Baseline: 2012 DFA Profile	5 Year rolling Min – based on 20% Variance	5 Year rolling Max – based on 20% Variance
western hemlock (Hw)	36.3%	29.0%	43.6%
western red cedar (Cw)	7.1%	5.7%	8.5%
amabilis fir (Ba)	9.6%	7.7%	11.5%
red alder, maple (Dr)	3.3%	2.6%	4.0%
Douglas-fir (Fd)	38.1%	30.5%	45.7%
yellow cedar (Yc)	3.2%	2.6%	3.8%

Performance

2021: SFO met the target for 5 of the 6 groupings and met the variance on 1 species (Cw). For this reason, the indicator variance was met.

2020: SFO met the target for 4 of the 7 groupings and did not meet the variance on the 3 species. For this reason, the overall indicator was not met.

2019: SFO met the target for 4 of the 7 groupings, met the variance on 2 groupings, and did not meet the variance on the "other" species. For this reason the overall indicator was not met.

2018: SFO met the variance for 2018. The target was met in all species groups other than the "other species" and "Yellow Cedar" groupings. The target baseline species inventory will be revised in 2019 or 2020 to reflect the individual tree inventory based on the LiDAR data.

2017: SFO met the variance for 2017. The target was met in all species groups other than the "other species" and "Yellow Cedar" groupings. The target baseline species inventory will be revised in 2018 or 2019 to reflect the individual tree inventory based on the LiDAR data.

2016: SFO met the target for 2016.

2015: SFO met the target for 2015.

2014: SFO met the target for 2014.

2013: SFO met the target for 2013.

2012: SFO met the target for 2012. The change in DFA results in a new 2012 baseline with the removal an area heavily weighted to second growth Douglas-fir. The overall percentage of Douglas-fir as therefore decreased, and the percentage of western hemlock has increased.

Strategies & Implementation

The main strategy for ensuring a stable overall species composition on the DFA is:

- Prompt and effective reforestation or regeneration of harvested areas with species of trees ecologically suited to the site only.

This is in effect a legal requirement that is met through a combination of natural regeneration and planting of seedlings specifically matched to the site ecology.

In areas where elk browsing pressures are high, a species shift may result on a specific site from Cw to Fd leading stands.

Forecasts

Because of the legacy of early logging history naturally regenerated stands of western hemlock expanded in range. As these stands mature and are harvested many are being reforested with planted Douglas fir and western red cedar, with natural regeneration of hemlock filling in. The DFA profile is expected to therefore change over time to include more Fd and Cw leading stands. In the short term, challenging markets have proportionately increased the harvest of Fd and Cw.

Because natural species shift or drift is very slow it is not likely to be a factor unless climate was to change so drastically in the short term (i.e. <100yrs) as to cause species dieback.

Details/Data Set

The forest cover data for the productive forest of the DFA is organized by stands of more or less homogeneous composition and age. The stand descriptors or labels include species composition

organized hierarchically by species representation in the stand. Stands can be grouped based on the leading species as follows:

- western hemlock
- western red cedar
- amabilis fir
- red alder
- Douglas-fir
- yellow cedar

The total area of the stands with the same leading species is then tallied.

Monitoring

To monitor performance on this indicator, the parameter that must be monitored or maintained for the DFA is:

- Forest inventory over time (adjusted annual harvested area and reforestation information)

The area of the stands on the DFA grouped by their leading species is determined through a GIS exercise.

The primary means to maintain the inventory is through the entry of activity information (e.g., stocking survey results and free-growing assessment results) in CENFOR by the Timberlands Operations. The forest inventories are updated with this information on a periodical basis.

Indicator 1.1.3 Forest area by seral stage or age class

Element: 1.1. Ecosystem diversity *Conserve ecosystem diversity at the stand and landscape levels my maintaining the variety of communities and ecosystems that naturally occur in the DFA.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The diversity of habitat across the DFA.	A broad and diverse range of habitat is maintained across the DFA.	**1.1.3** Forest area by seral stage or age class	The % of productive forest area in the older age classes (81+/120+) is at least the level recommended in the biodiversity guidebook [September 1995].	-5% from the recommended levels in the biodiversity guidebook for up to 10 years

History

This was a new core indicator in 2010, and continued in 2016 under Z809-16 CSA Standard.

Justification

For many species, if the habitat is suitable, populations will be maintained. Two key characteristics of forest ecosystems are the community types, as driven largely by the species composition of the overstorey, and community seral stages, as driven by succession and disturbance processes. These factors are strong predictors of the biotic communities that will inhabit both forest stands and the entire forest landscape. Older age classes are often the most difficult to manage, primarily because they require much time to develop. However, they are often host to unique communities that would not otherwise be present across the forest landscape.

Maintaining the target levels recommended by the biodiversity guidebook [September 1995] in older age classes (81+ years in the CWHdm, xm2, vm1, and vm2) (120+ years in the MHmm1) serves to ensure representation of these most unique communities are preserved. The biodiversity guidebook provides for these recommended targets based on the natural disturbance type (NDT) of the area which is the frequency of natural stand replacing events such as wind and fire.

The variance is meant to help account for age class distribution imbalance that might develop in the future for short time periods.

Current Status & Interpretation

At the end of 2018 the distribution of seral stages by NDT are summarized in the following table. The target is specific to the older age classes however the younger age classes are also shown for additional information and context.

NDT 1: CWH (CWHvm1 and CWHvm2)

Age Classes	Ha (2021)	Actual %	Target %
0 - < 40	7340	26 %	n/a
40 - 80	8668	31 %	n/a
81 +	11964	43 %	>18 %

NDT 1: MHmm1

Age Classes	Ha (2021)	Actual %	Target %
0 - < 40	1497	16 %	n/a
40 - 120	1516	16 %	n/a
120 +	6558	69 %	>19 %

NDT 2: CWH (CWHdm and CWHxm2)

Age Classes	Ha (2021)	Actual %	Target %
0 - < 40	10828	36 %	n/a
40 - 80	3844	13 %	n/a
81 +	15563	51 %	>17 %

The distribution of older age classes by NDT type are summarized by year in the following table.

NDT 1: CWH (CWHvm1 and CWHvm2)

Age Classes	Year						Target %
	2016	2017	2018	2019	2020	2021	
81 +	43%	43%	42%	43%	43%	43%	>18 %

NDT 1: MHmm1

Age Classes	Year						Target %
	2016	2017	2018	2019	2020	2021	
120 +	69%	69%	68%	68%	68%	69%	>19 %

NDT 2: CWH (CWHdm and CWHxm2)

Age Classes	Year						Target %
	2016	2017	2018	2019	2020	2021	
81 +	52%	52%	51%	52%	51%	51%	>17 %

Performance

2021: SFO met the target for 2021. The data indicates that there is a healthy range of older age classes within the DFA and that the target levels are well exceeded.

2020: SFO met the target for 2020. The data indicates that there is a healthy range of older age classes within the DFA and that the target levels are well exceeded.

2019: SFO met the target for 2019. The data indicates that there is a healthy range of older age classes within the DFA and that the target levels are well exceeded.

2018: SFO met the target for 2018. The data indicates that there is a healthy range of older age classes within the DFA and that the target levels are well exceeded.

2017: SFO met the target for 2017. The data indicates that there is a healthy range of older age classes within the DFA and that the target levels are well exceeded.

2016: SFO met the target for 2016. The data indicates that there is a healthy range of older age classes within the DFA and that the target levels are well exceeded.

2015: SFO met the target for 2015. The data indicates that there is a healthy range of older age classes within the DFA and that the target levels are well exceeded.

2014: SFO met the target for 2014. The data indicates that there is a healthy range of older age classes within the DFA and that the target levels are well exceeded.

2013: SFO met the target for 2013. The data indicates that there is a healthy range of older age classes within the DFA and that the target levels are well exceeded. The changes in area were not enough to change the associated percentage.

2012: SFO met the target for 2012. The data indicates that there is a healthy range of older age classes within the DFA and that the target levels are well exceeded. There was a slight decrease in the older aged classes in NDT2 which is consistent with harvesting that is occurring.

2011: SFO met the target for 2011. The data indicates that there is a healthy range of older age classes within the DFA and that the target levels are well exceeded.

2010: SFO met the target for 2010. The data indicates that there is a healthy range of older age classes within the DFA and that the target levels are being achieved.

Strategies & Implementation

A basic piece of the strategy is to protect part of the older age classes. This is done primarily for species habitat reasons (See Core indicator 1.2.1&1.2.2) and through processes such as those that identified Ungulate Winter Ranges (UWR) and Wildlife Habitat Areas (WHA).

Additionally, a significant area of the DFA referred to as the Non-Contributing Land Base (NCLB) is not operable for physical and economical reasons and also contributes to the protection of older age classes.

Over time, currently young stands in the NCLB will add to the current supply of older age classes (see Core Indicator 1.2.2). Such recruitment is also occurring for protected habitat areas.

Another key supporting company strategy for maintaining elements of the current forest is the *Western Forest Strategy* which describes the use of retention silviculture systems throughout Western's tenures. The strategy provides target levels of retention based on biological and other factors.

Finally, harvesting within the regulated levels and with a prompt reforestation strategy help contribute to the continuous supply of operating age classes.

Forecasts

With landscaping unit planning being complete on the DFA and sufficient area retained through Old Growth Management Areas to meet the targets in the Biodiversity Guidebook it is expected that this target will continue to be met into the future. This assumes that there are no major natural disturbance events that change the age class structure of the DFA.

Details/Data Set

Older age classes are defined as stands 81+ years in the CWH dm, CWH xm1, CWH vm1 and CWH vm2.

Older age classes are defined as stands 120+ years in the MHmm1.

Forest cover data is maintained in GIS layers and includes stand age information current to a given year. A manual exercise is applied to update the age of stands to the reporting year and to account for harvesting activities when necessary.

The total area of stands in the same age is then tallied by NDT.

Two NDTs are found in the DFA:

- *Natural disturbance type 1: ecosystems with rare stand-initiating events*

The mean return interval for these disturbances is generally 250 years for the CWH biogeoclimatic zone and the disturbances are generally small and irregular.

- *Natural disturbance type 2: ecosystems with infrequent stand-initiating events*

The mean return interval for these disturbances is about 200 years for the CWH biogeoclimatic zones and the disturbances are generally caused by fire and are moderate in size (20 to 1000ha).

Monitoring

To monitor the performance of this indicator, the parameter that must be monitored or maintained for the DFA is:

- Forest inventory over time (adjusted annual harvest area).

The area of the stands on the DFA grouped by their age class and NDT is determined through a GIS exercise.

The primary means to maintain the inventory is through the entry of activity information in CENGEA by the Timberlands Operations. The forest inventories are updated with this information on a periodical basis.

The GIS specialist compiles the data from the GIS database and the TFL Forester reports on the indicator performance in the annual SFM Report.

Indicator 1.1.4 Degree of within-stand structural retention

Element: 1.1 Ecosystem Diversity *Conserve ecosystem diversity at the stand and landscape levels my maintaining the variety of communities and ecosystems that naturally occur in the DFA.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The diversity of habitat across the DFA.	A broad and diverse range of habitat is maintained across the DFA.	**1.1.4** Degree of within-stand structural retention.	The retention silviculture system is represented across the DFA according to the targets listed in the *Western Forest Strategy* (see below) on a five year rolling average.	</= 15% of the target on a 5 year rolling average for each *Forest Strategy* group.

History

This was a new core indicator in 2010, and continued in 2016 under Z809-16 CSA Standard.

Justification

Forest ecosystems and species have evolved in response to changes in climate and different natural disturbances at various scales. To achieve conservation of biological diversity, the basic theoretical premise is that species are adapted to historic local conditions. In coastal BC, windthrow, insects, disease, infrequent fire and landslides create forests with an abundance of dispersed residual structure (e.g., live and dead standing trees in varying patterns) from the pre-disturbance stand. Our approach is to use scientific knowledge of historical development and habitat as a guide to sustain productive and diverse forest ecosystems. We recognize the resilience of ecosystems and the multiple pathways and patterns that can occur within the limits of ecosystem processes; therefore, we do not believe it is necessary to 'mimic' natural disturbances. Our strategy assumes that both stand-level retention and landscape-level reserves are necessary for maintaining a biodiversity over time across the landscape. Neither approach alone is likely to be as effective or efficient.

Coastal BC has a diversity of forest ecosystems and species; therefore, forest management practices must vary in response to that diversity. No single harvesting or silvicultural system is appropriate everywhere. Clearcut, seed tree, retention, shelterwood and selection systems are all ecologically appropriate in the right context. A mixture of systems will achieve a range of patch sizes and structures within stands and landscapes.

Utilization of a retention system ensures that there is a short and long term supply of coarse woody debris to maintain soil productivity. Western Forest Products' goals for cutblocks using the Retention System are:

- To design and implement the retention system in a safe and cost-effective manner.
- To leave a biological legacy of attributes from mature and old forests, well distributed within stands and landscapes, to maintain and promote biological diversity within the company's public tenures.
- To design cutblocks to maintain forest influence on the majority of the harvested area throughout the rotation.

- To ensure that cutblocks meet the principles of forest stewardship (i.e. prescriptions to address silviculture, forest health, site productivity, visual aesthetics, or other values).

The 15% variance on the five-year rolling average is meant to permit operational flexibility in light of weather, market, and other conditions.

Current Status & Interpretation

The Western Forest Strategy is fully implemented within the DFA. Harvest areas are designed to be consistent with the strategy and within stand structural retention is designated for all harvest areas.

On a five-year rolling average (currently 2017 to 2021) the use of the retention system is represented across the DFA as follows:

Western Forest Strategy Zone	Retention (%)	Target (%)	Target Achieved	Variance Achived
Enhanced Basic	63	>50	Yes	N/A
Enhanced Dry	69	>60	Yes	N/A
General Basic	52	>60	No	Yes
General Dry	64	>70	No	Yes

In addition to the representation of the retention system across the DFA the Community Advisory Group is also interested in the amount of stand level retention being retained across all of the cutblocks harvested each year. This information is for interest purposes and is in addition to the requirements of indicator 1.1.4. A summary of the amount of stand level retention by year is as follows:

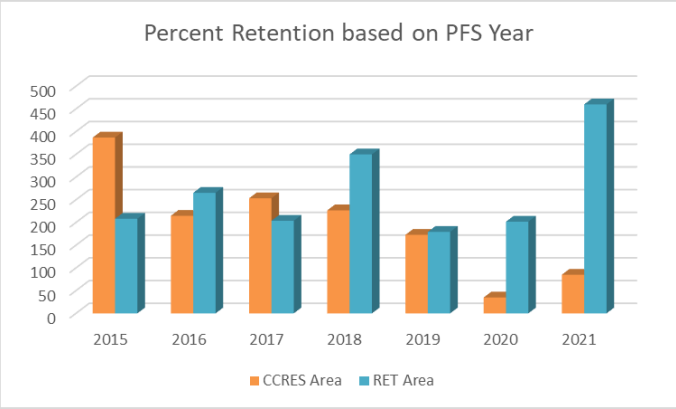
Year	Total Area Under Prescription (ha)	Total Area Retained at the Stand Level (ha)	% Retained
2021	441	162	36%
2020	450	86	19%
2019	346	68	20%
2018	755	152	20%
2017	443	108	24%
2016	513	101	20%
2015	459	130	28%
2014	565	104	18%
2013	716	152	21%
2012	583	132	23%
2011	745	143	19%
2010	651	122	19%
2009	445	75	17%
2008	352	70	20%
2007	299	58	19%
2006	492	89	18%
2005	1039	215	21%

Performance

2021: SFO met 2 of the 4 targets. For the other 2 zones (General Dry and the General Basic), SFO met the variances. These 2 zones represent a small proportion of the total harvest over the past 5 years.

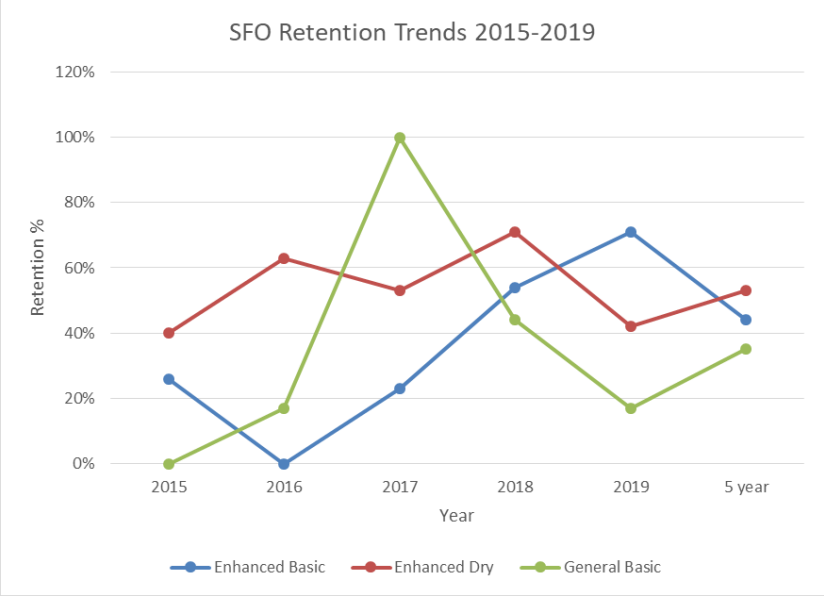
2020: SFO met 2 of the 4 targets. The 2 zones that were met represent 93% of the total harvest over the past 5 years. The 2 zones that were not met are the General Dry and the General Basic. These 2 zones represent only 7% of the total harvest over the past 5 years. There are some blocks in these zones harvested 2016-2018 that will fall out of the 5-year rolling average over the next few years. These 2 zones are a focus area for variable retention on all new layout.

2019: SFO did not meet the target but met the variance on 3 of 4 zones for 2019. This indicator is based on a 5 year rolling average. Overall WFP met the target percentages in all zones. Since 2017 we have been harvesting a lot of pre 2016 layout. In 2019 we still have a half a dozen blocks that are from this era. Some of these blocks we are looking at changing them to VR before they go into permit. The graph below illustrates where our numbers will be in 2020 and 2021. Since the start of 2017, VR layout has been the focus for the Planning team here at Stillwater. Based on this information we feel strongly that the SFO VR numbers will improve over the next few years as we move into the 2020-2023 VR reporting period.



2018: SFO did not meet the target but met the variance on 3 of 4 zones for 2018. This indicator is based on a 5 year rolling average. Overall WFP met the target percentages in all zones. Since 2017 we have been harvesting a lot of pre 2016 layout. In 2019 we still have a half a dozen blocks that are from this era. Some of these blocks we are looking at changing them to VR before they go into permit. We are also looking at 2020 harvest plans to see if we are continuing to trend in the right direction. Below is the

trend graph. The Enhanced Basic and General Basic in 2015/2016 are keeping our 5-year rolling average low.



2017: SFO did not meet the target or the variance for 2017. This indicator is based on a 5 year rolling average. Where possible, SFO will develop blocks in 2018 for retention. The exception to this will be steep blocks with prescribed cable harvesting.

2016: SFO met the variance for 2016. This indicator is based on a 5 year rolling average. Where possible, SFO will develop blocks in 2017 for retention. The exception to this will be steep blocks with prescribed cable harvesting.

2015: SFO met the variance for 2015. This indicator is based on a 5 year rolling average. The harvesting completed in 2010 has now dropped out of the 5 year rolling average and this year was weighted heavily to the retention system. In order to maintain conformance with this indicator, harvesting conducted in 2015 was heavily waited to the retention system enabling the variance to be achieved. The specific results for 2015 are as follows:

2014: SFO met the target for 2014. The total area harvested is from Corporate Forestry tracking which is based on the date of harvesting/falling started in CENGEA and not harvest completion date.

2013: SFO met the target for 2013. The targets for the retention system are being achieved and the amount of area harvested using the retention system increased from 2012. The amount of stand level retention decreased slightly to 21%.

2012: SFO met the target for 2012. The targets for the retention system are being achieved and amount of stand level retention was up slightly from prior years to 23%.

2011: SFO met the target for the Timber Forest Strategy Group and the variance for the Habitat Forest Strategy Group for 2011. The data for 2011 includes a total of 8.0ha logged using the CCR silviculture system due to the salvage of areas attacked by the Douglas-fir bark beetle. In 2010 and 2011 the

Habitat Forest Strategy Group has been proportionately higher to areas utilizing cable harvest systems resulting in a decreased use of the retention silviculture system.

2010: SFO met the target for 2010. The amount of the retention system being implemented across the DFA continues to exceed the targets outlined in the *Western Forest Strategy*.

Strategies & Implementation

Management strategies are described in the *Western Forest Strategy* document by Bill Beese, MF, RPF. Final Implementation Version approved July 24, 2007; and Retention System Implementation Standards June 2008.

The term retention system refers to a silvicultural system designed to meet the goals of the variable retention approach. It was originally defined in the BC Operational Planning Regulations (March 1999) and has 3 requirements:

1) retention of trees distributed across the cutblock;

2) trees are left for the long term (at least one rotation);

3) distribution of leave trees achieves >50% "forest influence".

The specific definition of the retention system is:

"a silvicultural system that is designed to:

(a) retain individual trees or groups of trees to maintain structural diversity over the area of the cutblock for at least one rotation, and

(b) leave more than half the total area of the cutblock within one tree height from the base of a tree or group of trees, whether or not the tree or group of trees is inside the cutblock."

A Working Group exists and meets at least annually to discuss ongoing implementation and possible changes to the *Western Forest Strategy*. One concern raised is the impact of windthrow on in-block retention.

Forecasts

The next Timber Supply Analysis for TFL 39 has been prepared and is currently with government for determining an updated harvested level for the TFL. It includes an analysis of the effect of implementing the *Western Forest Strategy* and quantifies the level of retention on the DFA.

The Timber Supply Analysis Information Package has the *Western Forest Strategy* contributing an incremental 3% by volume of the total operable forest than is retained due to legal or operational parameters only.

Any changes to the *Western Forest Strategy* due to ongoing monitoring and adaptive management processes would require a recommendation from the working group and approval by WFP management.

Given the complexities and variation in year to year harvest planning it can be expected that in any given year the target for a specific Forest Strategy Group within the DFA will not be achieved however over a five year rolling average the target is expected to be achieved.

Details/Data Set

BEC – Biogeoclimatic Ecosystem Classification system; provides for multi scale classification framework.

Monitoring

The detailed monitoring and reporting procedures will be used in reporting this indicator as described in the *Western Forest Strategy* document. A spreadsheet is currently used to track the area harvested by silviculture system. This data is summarized annually and included in the annual SFM report.

Corporate Forestry compiles the data based on the list of blocks where harvesting started in the reporting year and the TFL Forester reports on the indicator performance in the annual SFM report.

Indicator 1.2.1 Degree of habitat protection for selected focal species, including species at risk

Element: 1.2 Species Diversity *Conserve species diversity by ensuring that habitats for the native species found in the DFA are maintained through time, including habitats for known occurrences of species at risk.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Habitat for selected focal species, including species at risk.	Maintain or increase habitat for selected focal species, including species at risk.	**1.2.1** Degree of habitat protection for selected focal species, including species at risk.	The amount of area (ha) of habitat protected for selected focal species remains the same or increase year after year. (Selected focal species are mountain goat, grizzly bear, coastal tailed frog, marbled murrelet, and Queen Charlotte goshawk).	Total decrease of 2% by species.

History

This was a new core indicator in 2010, and continued in 2016 under Z809-16 CSA Standard.

Justification

“Habitat” in terms of both quantity and quality, is a key component of the health of species and animal populations” (CSA sustainable Forest Management 2008). Forest management can have both positive and negative effects for wildlife and their habitat. It is important to ensure forest habitat necessary to the survival of species is available for use in the short-term and long-term. Habitat reserved for focal species also contributes to the habitat needs of other wildlife species.

Ungulate winter ranges are areas identified as critical to the survival of local populations of ungulates during severe winters. Mountain goats and deer need areas with suitable forest and topographical features that are able to provide shelter, forage and snow interception. In coastal British Columbia, mountain goats require areas of accessible and abundant forage in close proximity to escape terrain in moderate to high snowpack areas. Mountain goats are not considered a species at risk but have a BC Conservation Framework Priority of 1 (BC Species and Ecosystems explorer, 2010). BC is home to over half the world’s population of mountain goats and they are valued for social, economic and cultural reasons. Deer are not considered a focal species of concern but have local importance for food, economic opportunity, and recreation.

Grizzly bear habitat areas have been identified in the DFA to protect high value forage areas. They are typically located in mature forest areas associated with slide track and swamp complexes or fish bearing rivers and lakes that provide herbaceous vegetation and/or fish. Grizzly bear are a species of special concern, provincially blue-listed and have a BC Conservation Framework Priority of 2 (BC Species and Ecosystems explorer, 2010).

The coastal tailed frog likes cool mountain streams with year round water, small channels, no fish, and shading. Tailed frogs are considered vulnerable to human activities but are relatively widespread in the coastal mountains. They are on the provincial Blue List, have been designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as Special Concern, and are listed on the Forest and Range Practices Act (FRPA) Category of Species at Risk.

Marbled murrelets are small seabirds that nest inland with a majority of nests being found on large boughs high in old conifers up to 30 km inland. Much work has been done along the coast to identify and rank suitable nesting habitat for marbled murrelets. Marbled murrelets are listed as Threatened on Schedule 1 of the Federal Species at Risk Act (SARA), provincially blue-listed, listed on the Forest and Range Practices Act (FRPA) Category of Species at Risk and considered Identified Wildlife, and have a BC Conservation Framework Priority of 1 (BC Species and Ecosystems Explorer, 2010). Identified Wildlife are considered to be sensitive to habitat alteration associated with forest and range practices and are considered to be at risk (endangered, threatened, vulnerable or regionally important).

The Queen Charlotte Goshawk is a relatively large forest dwelling hawk. They need a closed canopy forest with an open understory for nesting and foraging. The coastal subspecies is listed ad Threatened on SARA Schedule 1, provincially red-listed, listed on the Forest and Range Practices Act (FRPA) Category of Species at Risk and are considered Identified Wildlife, and have a Conservation Priority of 1.

The variance is meant to help account for fluctuation due to spatial issues (e.g. map base or scale) and natural disturbance factors.

Current Status & Interpretation

At current amount of habitat for the selected focal species that is protected in the DFA is as follows:

Habitat Type	Measure	Total Area (Ha)					Comments
		2017	2018	2019	2020	2021	
Ungulate Winter Range (Mountain Goat)	Spatially delineated ungulate winter range	10,240	10,240	10,234	10,234	10,234	Spatially delineated ungulate winter range
Grizzly Bear Habitat	Spatially delineated grizzly bear habitat	325	325	325	325	325	↑from DFA Revision 2012
Coastal Tailed Frog Habitat	Total area of habitat to be retained within the DFA	2.5	2.5	2.5	2.5	2.5	Tenure area (DFA) decrease in 2011 and amount is proportionate to the District–FSP Extension Jan. 4 2012
Marbled Murrelet Nesting Habitat	Spatially delineated nesting habitat	2,098	2,098	1,261	1,261	1,249	Moderate to very High ranked habitat from the low level aerial inventory in WHA, UWR, OGMA
Queen Charlotte Goshawk Nesting Habitat	Total area of habitat to be retained within the DFA	82*	82*	585*	585*	630*	2021: 201 ha legal WHA and 429 ha Voluntary.

Performance

2021: SFO met the target for 2021 for all species other than MAMU. MAMU met the variance and saw a slight decrease due to the targets indicated in the land use order.

2020: SFO met the target for 2020. No changes from 2019.

2019: SFO met the target for 2019. The area for Queen Charolette Goshawk increased from 82 ha to 585 ha due to the proposed WHAs. In 2019, the area for Marbled Murrelet was reduced from 2098 ha to 1261 ha. The 2098 ha originates from the FSP shapes that were established to meet the section 7 notice for Marbled Murrelet.The 2098 ha included potential habitat as well as NP rock, and younger age classes (non-habitat areas). The revised number in 2019 includes all Rank 1, 2, and 3 habitat polygons from the low-level aerial survey mapping completed for Marbled Murrelet habitat. As the original area was not

directly tied to moderate to very high-quality habitat, the actual habitat number will be used until the WHA targets are legislated. For interest the draft WHA targets are as follows:

Powell Daniels Landscape Unit has an aspatial target of 1,856 ha. Of that 1,315 ha must be spatially located (in WHA or OGMA) and of that 406 ha must be in WHA (remainder in OGMA).

Powell Lake Landscape Unit has an aspatial target of 934 ha. Of that 648 ha must be spatially located (in WHA or OGMA) and of that 333 ha must be in WHA (remainder in OGMA).

2018: SFO met the target for 2018. It was confirmed that there were no changes from 2017 to 2018. The Northern Goshawk WHAs have not yet been approved by Government.

2017: SFO met the target for 2017. It was confirmed that there were no changes from 2016 to 2017. The Northern Goshawk WHAs have not yet been approved by Government.

2016: SFO met the target for 2016. It was confirmed that there were no changes from 2015 to 2016. Anticipate changes in 2017 representing the designation of Northern Goshawk wildlife Habitat Areas.

2015: SFO met the target for 2015. The amount of habitat retained for the Queen Charlotte Goshawk has increased as additional nesting areas have been identified in the DFA.

2014: SFO met the target for 2014. It was confirmed that there were no changes from 2013 to 2014.

2013: SFO met the target for 2013. It was confirmed that there were no changes from 2012 to 2013.

2012: SFO met the target for 2012. While the DFA decreased from 2011 to 2012 there were some minor updates to the heights of land along portions of the tenure boundary which increased some of the areas slightly.

2011: SFO met the target for 2011. The Forest Stewardship Plan that covers the DFA specifies the amount of area to be retained for the Coastal Tailed Frog and Queen Charlotte Goshawk. The total area required for these species is provided by government for the entire Sunshine Coast Forest District. The tenure area covered by the FSP has decreased since the original FSP was completed in January 2007 due to tenure takeback and therefore the proportionate amount of area to be retained within the DFA has correspondingly decreased. The actual amount of habitat protected has not changed, it is just not within WFP's tenure area anymore.

2010: SFO met the target for 2010. The specific amount of area for each focal species continues to me maintained on the DFA.

Strategies & Implementation

- To spatial designate reserve areas for each species. Some of these reserves are legally established through orders and others are established within the current Forest Stewardship Plan covering the DFA.
- WFP completes any permitted harvesting and road building within the reserves in accordance with the approved measures for the reserves.
- Species at Risk training is delivered to the operations to aid staff in identifying and working around species at risk.
- Nests that are encountered during the harvest planning process are managed in accordance with the known management information for that species.
- A Queen Charlotte goshawk protocol has been developed to guide operations managing forest activities around nests.

Forecasts

The areas for these reserves are legally established in either an UWR, WHA, or within the Forest Stewardship Plan for the DFA. The amount of habitat conserved for the identified focal species is therefore expected to at least remain the same over time.

The area for the coastal tailed frog as well as the Queen Charlotte Goshawk is based on the proportion of the DFA relative to the Sunshine Coast Forest District as outlined in the FRPA Section 7 Notice. If the area of the DFA were to decrease this area will proportionately decrease within the DFA but remain the same across the Forest District.

Details/Data Set

- Ungulate Winter Ranges for mountain goats have been legally established in the DFA. Some limited harvesting is permitted within these UWRs. This harvested area remains within the UWR. The total UWR area must meet or exceed 10, 208 ha.
- Grizzly bear habitat areas are indentified spatially in the Forest Stewardship Plan covering the DFA. The total grizzly bear habitat areas must meet or exceed 324 ha.
- A total amount of habitat that is to be protected for the coastal tailed frog and Queen Charlotte Goshawk has been identified in the Forest Stewardship Plan covering the DFA. This amount is based on the proportion of the DFA within the Sunshine Coast Forest District. This area is not required to be spatially designated.
- Marbled murrelet nesting habitat is spatially identified through a legally established WHA and habitat areas in the Forest Stewardship Plan covering the DFA. The original total area of marbled murrelet nesting habitat must meet or exceed 2,089 ha. In 2019, the area for Marbled Murrelett dropped from 2098 ha to 1261 ha. The 2098 ha originates from the FSP shapes that were established to meet the section 7 notice for Marbled Murrelett.The 2098 ha included potential habitat as well as NP rock, and younger age classes (non-habitat areas). The revised number in 2019 includes all Rank 1, 2, and 3 habitat polygons from the low-level aerial survey mapping completed for Marbled Murrelett habitat. As the original area was not directly tied to moderate to very high quality habitat, the actual habitat number will be used until the WHA targets are legislated.

Monitoring

Reserves are mapped spatially in a layer of the GIS. Changes in boundaries are tracked by Corporate Forestry biologists.

The GIS specialist confirms the reserve areas annually and the TFL Forester reports on the indicator performance in the annual SFM Report.

Indicator 1.2.2 Degree of suitable habitat in the long term for selected focal species, including species at risk

Element: 1.2 Species Diversity *Conserve species diversity by ensuring that habitats for the native species found in the DFA are maintained through time, including habitats for known occurrences of species at risk.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Availability of suitable habitat for selected focal species, including species at risk	To ensure the long-term availability of habitat for selected focal species including species at risk.	**1.2.2** Degree of suitable habitat in the long term for selected focal species, including species at risk.	The amount (in ha) of potentially suitable habitat available within WHA, UWR, and OGMA remains the same or increases over each 5 year period. (Selected focal species are mountain goats, grizzly bears, and marbled murrelets).	Total decrease[1] of 5% by species

History

This was a new core indicator in 2010, and continued in 2016 under Z809-16 CSA Standard.

Justification

Some species need habitat that includes mature to old trees for their survival. Habitat currently unsuitable for species may develop the attributes necessary for the survival of the species as it ages. It is important to ensure critical habitat will be available in the long-term. Long-term is defined as twice the average life expectancy of the predominate trees in a DFA, up to a maximum of 300 years. Tree species within the DFA are long lived and the long-term is defined as the maximum of 300 years.

Ungulate winter ranges are areas identified as critical to the survival of local populations of ungulates during severe winters. Mountain goats and deer need areas with suitable forest and topographical features that are able to provide shelter, forage and snow interception. In coastal British Columbia, mountain goats require areas of accessible and abundant forage in close proximity to escape terrain in moderate to high snowpack areas. Mountain goats are not considered a species at risk but have a BC Conservation Framework Priority of 1 (BC Species and Ecosystems explorer, 2010). BC is home to over half the world's population of mountain goats and they are valued for social, economic and cultural reasons. Deer are not considered a species of concern but have local importance for food, economic opportunity and recreation.

Grizzly Bear polygons have been identified in the DFA to protect high value forage areas. They are typically located in mature forest areas associated with slide track and swamp complexes or fish bearing rivers and lakes that provide herbaceous vegetation and/or fish. Grizzly bear are a species of special concern, provincially blue-listed and have a BC Conservation Framework Priority of 2 (BC Species and Ecosystems explorer, 2010).

Marbled murrelets are small seabirds that nest inland with a majority of nests being found on large boughs high in old conifers up to 30 km inland. Much work has been done along the coast to identify and rank suitable nesting habitat for marbled murrelets. Marbled murrelets are listed as Threatened on

Schedule 1 of the Federal Species at Risk Act (SARA), provincially blue-listed, listed on the Forest and Range Practices Act (FRPA) Category of Species at Risk and considered Identified Wildlife, and have a BC Conservation Framework Priority of 1 (BC Species and Ecosystems Explorer, 2010). Identified Wildlife are considered to be sensitive to habitat alteration associated with forest and range practices and are considered to be at risk (endangered, threatened, vulnerable or regionally important).

[1]The variance is meant to help account for fluctuations due to spatial issues (e.g. map base or scale) and natural disturbance factors for mountain goat ungulate winter ranges and grizzly bear polygons. For marbled murrelet the variance is also to account for the inaccuracies of the modeling, the inability to predict the quality of the habitat, and for the minor amounts of limited harvesting permitted within the mountain goat ungulate winter ranges that could affect the total amount of marbled murrelet habitat.

Current Status & Interpretation

At the end of 2010 and continued through 2011, the baseline amount of potentially suitable habitat for selected focal species that is currently available in the DFA within constrained reserve areas is as follows:

Habitat Type	Measure	Legal Reserves (ha)	FSP Reserves (ha)
Ungulate Winter Range	Spatially delineated ungulate winter range.	10,240	0
Grizzly Bear Polygons	Spatially defined in FSP	0	325
MAMU Nesting Habitat	Potentially Suitable Habitat in WHA, UWR, and OGMA	3246-4256	47-44

Performance

2021: SFO met the target for 2021. The next 5-year period update will be in 2023.

2020: SFO met the target for 2020. The next 5-year period update will be in 2023.

2019: SFO met the target for 2019. The next 5-year period update will be in 2023.

2018: SFO met the target for 2018. 2018 increase in legal reserves due to forest height data missing that was updated; decrease in FSP reserve due to OGMA admendments that increased area in legal reserves (overlap with FSP area) and due to update to height data - which in this case, worked the other way (ht that was tall enough became smaller). Overall there was an increase in potentially suitable habitat from 13,858 ha in 2013 to 14,865 ha in 2018.

2017: SFO met the target for 2017. The next 5-year period update will be in 2018.

2016: SFO met the target for 2016. The next 5-year period update will be in 2018.

2015: SFO met the target for 2015. The next 5-year period update will be in 2018

2014: SFO met the target for 2014. The next 5-year period update will be in 2018.

2013: SFO met the target for 2013. The total habitat available for each species remained the same or increased. The overall increase in MAMU nesting habitat is due to trees reaching 250 years in age or a

height greater than 28.5m. The slight decrease in habitat within the FSP legal reserves appears to be due to updated forest cover data.

2012: SFO met the target for 2012. The UWR increased to 10,240 due to refinement of the DFA boundary.

2011: SFO met the target for 2011. There have been no changes to the reserves within the DFA.

2010: SFO met the target for 2010.

Strategies & Implementation

- During the OGMA selection process for all landscape units within the DFA, efforts were made to capture as much candidate MAMU habitat area identified. Portions of several candidate MAMU areas have been included as OGMAs.
- Subsequent to the landscape unit planning process, an aerial reconnaissance was completed which identified nine marbled murrelet habitat management polygons. These polygons are established through the FSP for Block 1.
- WFP ensures that locations of known marbled murrelet nests are identified during the harvest planning process.
- Fifty-four mountain goat winter ranges are established in the DFA through Order # U-2-004. Individual winter ranges were selected based on habitat potential rather than use. Some limited harvesting is permitted subject to area specific netdowns. The harvested area remains part of the winter range.
- Four grizzly bear habitat management areas are established in the DFA. These habitat management areas are established in the FSP and protect high value forage areas, particularly valley bottom habitat associated with fish streams, and to provide connectivity
- *Western's Forest Strategy* around retention harvesting will leave a legacy of mature and old forest attributes.
- As reliable habitat modeling tools and parameters become available for different species, WFP will apply them to its land base to guide the evolution of management prescriptions.

Forecasts

Ungulate winter ranges and grizzle bear polygons are not expected to change over time as these areas are based on topographical and forested characteristics that are not expected to change significantly from the natural disturbance processes.

The quantity of potentially suitable habitat is forecast for marbled murrelet. This includes the current amount of potentially suitable habitat and future potentially suitable habitat (i.e. trees that are currently too young). This does not take into account habitat quality as the characteristics, such as moss development, are not easily modeled. It is expected that within the amount forecast not all will be suitable.

To forecast suitable habitat into the future only modeling can be used as the inventory gives the current state. Potentially suitable habitat was modeled using parameters from the marbled murrelet recovery team and in two steps.

1) For forests greater than 250 years old there was an assumption that the old growth characteristics would not change significantly in the long term and the following parameters were

used: Forested area > 250 years old and > 28.5 m tall. These parameters are from the "Most Likely" category defined in Table 3 in the Marbled Murrelet Conservation Assessment 2003, Part B.

2) For forests younger than 250 years old there is a potential to develop the necessary attributes. It was assumed that trees with a moderate or better site index had the potential to develop the characteristics and the following parameters were used: Forested area ≤ 250 years old and > 28.5 m tall or Site Index ≥18.

The table below shows the result of this modeling exercise. In essence, as currently young stands grow, substantially more potentially suitable habitat is available in the long-term for the marbled murrelet. The modeling exercise was updated in 2013 and the updated shift is shown in the table below. The updated forecast for MAMU nesting habitat appears to be due to updated tree heights and some updates to the OGMAs. The total area remains a significant increase over the current 3,246ha of habitat.

Habitat Type	Legal Reserves (ha)	FSP Reserves (ha)
Ungulate Winter Range	10,208→10,240	0
Grizzly Bear Polygons	0	324→325
Potential MAMU Nesting Habitat	6,822→6692	75→79

Details/Data Set

Ungulate Winter Ranges have been legally established within the DFA. A total of 10,208 ha have been legally designated through a GAR order. Established UWR should remain as such in the long-term because of the old-growth characteristics of the UWR and long intervals between natural disturbances in the ecosystems. The indicator is measured as the total area spatially delineated and conserved for ungulate winter range over the long-term and must meet or exceed the target of 10,208 ha. There are limited harvest opportunities available within the UWRs and because the harvested area remains part of the overall functioning UWR the total area of the UWR is reported even though some minor harvesting may have occurred.

Grizzly Bear habitat has been delineated through the Forest Stewardship Plan. A total of 324 ha are defined in the DFA. The indicator is measured as the total area spatially delineated and conserved by WFP for grizzly bear habitat over the long-term.

Marbled Murrelet nesting habitat has been delineated within the DFA. Potentially suitable habitat was modeled. Of the potentially suitable habitat within the DFA the areas within wildlife habitat areas, ungulate winter range, other reserve areas (marbled murrelet and grizzly bear), and old growth management areas will be retained in the long-term. The potentially suitable habitat available in reserves was calculated using the current legal and proposed WHA, UWR, OGMAs, as well as the Forest Stewardship Plan polygons for marbled murrelet and grizzly bear. This indicator is a measure of the amount of potentially suitable nesting habitat retained within the DFA over the long-term. The amount should be consistent or increase from the current state and not be less than 3,259ha.

Monitoring

- Reserves are mapped spatially in a layer of the GIS. Changes in boundaries are tracked by Corporate Forestry biologists.
- Potential habitat supply will be monitored spatially relative to the target every 5 years.

Indicator 1.2.3 Proportion of regeneration comprised of native tree species allowed for under the Approved Forest Stewardship Plan

Element: 1.2 Species Diversity *Conserve species diversity by ensuring that habitats for the native species found in the DFA are maintained through time, including habitats for known occurrences of species at risk.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The existing pool of genes within tree species on the DFA	The existing pool of genes within tree species on the DFA is maintained	**1.2.3** Proportion of regeneration comprised of native tree species	The proportion of regeneration comprised of native tree species as allowed for under the Approved Forest Stewardship Plan is 100%.	None

History

This is a new core indicator in 2010 and continues under the Z809-16 CSA Standard.

Justification

The Chief Forester's Standards for Seed Use require native tree species to be planted. Accordingly, all trees planted within the DFA are native tree species allowed for under the Approved Forest Stewardship Plan subject to climate change criteria. For the purpose of this indicator the term "native" refers to all tree species that are native to British Columbia.

Current Status & Interpretation

The 2008 leading species profile of the DFA compared to the amount of trees regenerated by species each year is as follows:

Year	Ba	Cw	Yc	Fd	Hw	Pw	Dr	Ss	Misc.	Total
Planted 2021 (%)	1.6	30.7	11.3	53.7	2.5	0.0	0.0	0.0	0.1 (Bp)	100%
Planted 2020 (%)	1.5	26.1	2.0	67.7	1.8	0.9	0.0	0.0	0.0	100%
Planted 2019 (%)	2.2	31.2	1.4	62.4	0.0	1.3	0.0	1.5	0.0	100%
Planted 2018 (%)	0.0	38.2	0.6	59.7	0.0	0.5	1.0	0.0	0.0	100%
Planted 2017 (%)	0.0	34.6	2.1	59.9	0.1	0.7	2.5	0.0	0.2 (Bp)	100%
Planted 2016 (%)	0.0	36.0	3.4	60.2	0.1	0.2	0.0	0.0	0.0	100%
Planted 2015 (%)	0.0	21.9	7.8	65.6	0.6	0.0	4.2	0.0	0.0	100%
Planted 2014 (%)	0.0	27.9	0.7	65.0	0.0	0.0	6.4	0.0	0.0	100%
Planted 2013 (%)	0.8	24.5	4.0	66.8	0.5	0.0	3.4	0.0	0.0	100%
Planted 2012 (%)	0.0	27.8	2.0	70.2	0.0	0.0	0.0	0.0	0.0	100%
2012 DFA Baseline Species Profile (%)	9.6	7.1	3.2	38.1	36.3	0.0	3.3	0.5	1.9	100%

Planted 2011 (%)	0.4	19.9	0.4	79.3	0.0	0.0	0.0	0.0	0.0	100%
Planted 2010 (%)	0.5	18.0	1.9	78.8	0.8	0.0	0.0	0.0	0.0	100%
2008 DFA Species Profile (%)	8.3	8.4	2.5	40.2	35.4	0.1	4.6	0.0	0.0	100%

Performance

2021: SFO met the target for 2021. All species regenerated allowed for under the Approved Forest Stewardship Plan subject to climate change criteria. Note that Bp is not a native species but allowed for under the Approved Stewardship Plan.

2020: SFO met the target for 2020. All species regenerated allowed for under the Approved Forest Stewardship Plan subject to climate change criteria.

2019: SFO met the target for 2019. All species regenerated allowed for under the Approved Forest Stewardship Plan subject to climate change criteria.

2018: SFO met the target for 2018. All species regenerated allowed for under the Approved Forest Stewardship Plan subject to climate change criteria.

2017:SFO did not meet the target for 2017. Bp (Noble Fir or Pacific Silver Fir) is not a native species and was planted on a trial basis, as a 10% mix with Yc in one high elevation cutblock, to assess it's suitability in a changing climate. At 1000 sph planting density, it is not expected to contribute significantly to stocking levels. Bp accounted for 0.2% of the total seedlings planted in 2017.

2016: SFO met the target for 2016. All species regenerated were native species.

2015: SFO met the target for 2015. All species regenerated were native species.

2014: SFO met the target for 2014. All species regenerated were native species.

2013: SFO met the target for 2013. All species regenerated were native species.

2012: SFO met the target for 2012. All species regenerated were native species. With the DFA changes in 2012 a new baseline row has been added to the table.

2011: SFO met the target for 2011. All species regenerated were native species.

2010: SFO met the target for 2010. All species regenerated were native species.

Strategies & Implementation

All tree species regenerated within the DFA are native tree species. Trees are regenerated within the DFA from natural regeneration or from planting trees within their seed transfer limits. At free growing there tends to be more trees regenerated on site in addition to those planted. These naturally regenerated trees ensure the existing pool of genes within tree species on the DFA is maintained.

Forecasts

Assuming that climate change does not trigger species extirpation, it is expected that native tree species will continue to significantly augment planted areas at historical levels and contribute to genetic diversity.

Also, there is no expectation of changes in regulation that would alter the current standard of reforestation with ecologically suited species and allow the introduction of exotic species.

Details/Data Set

The number of trees planted by species during the annual spring and fall planting programs will demonstrate that only native species are planted. The species planted are generally Cw and Fd with minor amounts of Ba, Yc, and Dr. Hemlock regenerates very well naturally across the DFA but to determine the amount of natural Hw regeneration is difficult. Pw tends not to be reforested due to the white pine blister rust. As resistant seed for this species becomes available more may be planted in the future.

Monitoring

The Area Planner manages the planting program. The number and species of trees planted are entered into CENGEA.

The Area Planner compiles the data from the Silviculture Database and reports on the indicator performance in the annual SFM Report.

Indicator 1.2.4 Percent of area within Deer Winter Range that is consistent with management strategies

Element: 1.2 Species Diversity *Conserve species diversity by ensuring that habitats and forest conditions for the native species found in the DFA are maintained through time, including habitats for known occurrences of species at risk.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Maintenance of Deer Winter Range habitat	Forest activities consistent with operational requirements within known deer winter ranges	**1.2.4** Percent of area within Deer Winter Ranges that is consistent with management strategies.	A maximum of 20% of the Productive Area is </= 20Years	0%
			At least 20% of the Productive Area is >/= 80Years	0%

History

This is a new Local Indicator to the SFMP incorporated into the 2018 version of the SFMP. The Deer Winter Range polygons and strategies were originally proposed by Steve Gordon of the Ministry of Environment in 2000. Although the Deer Winter Ranges are not legal, in 2004 the Deer Winter Ranges and strategies were incorporated into forest planning through the Forest Stewardship Plan.

In 2017 the Deer Winter Ranges were removed from the Forest Stewardship Plan. The Deer Winter Range requirements and strategies now reside in the SFMP.

Justification

“Habitat” in terms of both quantity and quality, is a key component of the health of species and animal populations” (CSA sustainable Forest Management 2008). Forest management can have both positive and negative effects for wildlife and their habitat. It is important to ensure forest habitat necessary to the survival of species is available for use in the short-term and long-term.

Deer winter ranges are areas identified as critical to the winter survival of local populations of black tailed deer. Deer require areas with suitable forest and topographical features that are able to provide shelter, forage and snow interception. Although Black Tailed Deer are not considered a focal species of concern, they have local importance for food, economic opportunity, and recreation.

Current Status & Interpretation

Table 1: Percent of productive area less than or equal to 20 years old

Percent of productive area </= 20 years old							
Deer WR	**Target %**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
DMR-MA-02	<20%	8%	8%	8%	7%	7%	10%
DMR-MA-03	<20%	23%	23%	23%	17%	17%	17%
DMR-MA-06	<20%	10%	10%	10%	6%	6%	6%
DMR-MA-09	<20%	17%	17%	17%	17%	17%	16%
DMR-MA-10	<20%	6%	6%	14%	14%	14%	10%
DMR-MA-12	<20%	1%	1%	1%	0%	0%	0%
DMR-MA-13	<20%	2%	2%	2%	2%	2%	2%
DMR-MA-26	<20%	11%	11%	12%	9%	9%	8%
DMR-MA-28	<20%	7%	7%	7%	7%	7%	6%
DMR-MA-29	<20%	0%	0%	0%	0%	0%	0%
DMR-MA-35	<20%	0%	0%	0%	0%	0%	0%

Table 2: Percent of productive area greater than or equal to 80 years old

Percent of productive area >/= 80 years old							
Deer WR	**Target %**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
DMR-MA-02	>20%	92%	92%	92%	69%	69%	69%
DMR-MA-03	>20%	77%	77%	77%	63%	63%	63%
DMR-MA-06	>20%	90%	90%	90%	91%	91%	91%
DMR-MA-09	>20%	83%	83%	83%	83%	83%	84%
DMR-MA-10	>20%	94%	94%	86%	87%	87%	87%
DMR-MA-12	>20%	99%	99%	99%	100%	100%	100%
DMR-MA-13	>20%	98%	98%	98%	98%	98%	98%
DMR-MA-26	>20%	89%	89%	88%	91%	91%	91%
DMR-MA-28	>20%	93%	93%	93%	93%	93%	93%
DMR-MA-29	>20%	100%	100%	100%	100%	100%	100%
DMR-MA-35	>20%	100%	100%	100%	100%	100%	100%

Performance

2021: SFO met both targets for 2021. The analysis of all the Deer Winter Range was updated in January 2022.

2020: SFO met both targets for 2020. The 2016 analysis was re-calculated late in 2019, and the 2 tables above represent the latest analysis.

2019: SFO met both targets for 2019, based on the 2019 analysis. In 2019 there were no blocks harvested that overlapped deer winter ranges.

2018: SFO met both targets for 2018 except for DMR-MA-03. There is no planned harvesting in DMR-MA-03 until such time there is <20% of the productive forest < 20 years old. In 2018 there were three harvested blocks overlap with deer winter ranges.

2017: SFO met both targets for 2017 except for DMR-MA-03. There is no planned harvesting in DMR-MA-03 until such time there is <20% of the productive forest < 20 years old

2016: SFO met both targets for 2016 except for DMR-MA-03. There is no planned harvesting in DMR-MA-03 until such time there is <20% of the productive forest < 20 years old.

Strategies & Implementation

Black-Tailed Deer

DWR 02, 03, 06, 09, 10, 12, 13, 26, 28, 29, 35

Timber harvesting, road construction, maintenance and deactivation may occur in a polygon, subject to the following guidelines, applicable to and as of the conclusion of such harvesting:

(a) within a cutblock; or

(b) for the purposes of construction of a road, in a polygon:

(c) a maximum of 20% of the productive forest land within the polygon will be comprised of timber stands under 20 years in age;

(d) a minimum of 20% of the productive forest land within the polygon will be comprised of timber stands at least 80 years in age; and

(e) at least one patch of at least 20 hectares in area with trees at least 80 years old will be retained in the polygon.

The following tables are based on an analysis completed in **2022** identifying the current status of each deer winter range.

Unit ID:	DMR_MA_02		
	Gross Area	NP area	Prod. Area
Unit Area	449.6	73.4	376.2
	Hectares	Percent	Target %
< AC 2	38.9	10%	< 20%
> AC 4	258.7	69%	> 20%
Planned Harvesting			0
Area available to Harvest (ha):			36.3

Unit ID:	DMR_MA_03		
	Gross Area	NP area	Prod. Area
Unit Area	230.7	57.9	172.8
	Hectares	Percent	Target %
< AC 2	29.1	17%	< 20%
> AC 4	109.7	63%	> 20%
Planned Harvesting			0.3
Area available to Harvest (ha):			5.2

Unit ID:	DMR_MA_06		
	Gross Area	NP area	Prod. Area
Unit Area	226.8	27.6	199.2
	Hectares	Percent	Target %
< AC 2	12.6	6%	< 20%
> AC 4	180.8	91%	> 20%
Planned Harvesting			0
Area available to Harvest (ha):			27.2

Unit ID:	DMR_MA_09		
	Gross Area	NP area	Prod. Area
Unit Area	69.6	28.3	41.3
	Hectares	Percent	Target %
< AC 2	6.7	16%	< 20%
> AC 4	34.6	84%	> 20%
Planned Harvesting			0
Area available to Harvest (ha):			1.6

Unit ID:	DMR_MA_10		
	Gross Area	NP area	Prod. Area
Unit Area	219.3	5.1	214.2
	Hectares	Percent	Target %
< AC 2	22.3	10%	< 20%
> AC 4	185.7	87%	> 20%
Planned Harvesting			0
Area available to Harvest (ha):			20.5

Unit ID:	DMR_MA_12		
	Gross Area	NP area	Prod. Area
Unit Area	106.4	34.7	71.7
	Hectares	Percent	Target %
< AC 2	0.0	0%	< 20%
> AC 4	71.7	100%	> 20%
Planned Harvesting			13.6
Area available to Harvest (ha):			0.7

Unit ID:	DMR_MA_13		
	Gross Area	NP area	Prod. Area
Unit Area	301.2	129.2	172
	Hectares	Percent	Target %
< AC 2	3.1	2%	< 20%
> AC 4	168.9	98%	> 20%
Planned Harvesting			0
Area available to Harvest (ha):			31.3

Unit ID:	DMR_MA_26		
	Gross Area	NP area	Prod. Area
Unit Area	212.4	7.1	205.3
	Hectares	Percent	Target %
< AC 2	16.9	8%	< 20%
> AC 4	186.1	91%	> 20%
Planned Harvesting			0.6
Area available to Harvest (ha):			23.6

Unit ID:	DMR_MA_28		
	Gross Area	NP area	Prod. Area
Unit Area	61	0	61
	Hectares	Percent	Target %
< AC 2	3.8	6%	< 20%
> AC 4	56.8	93%	> 20%
Planned Harvesting			0
Area available to Harvest (ha):			8.4

Unit ID:	DMR_MA_29		
	Gross Area	NP area	Prod. Area
Unit Area	81.3	3.4	77.9
	Hectares	Percent	Target %
< AC 2	0.0	0%	< 20%
> AC 4	77.6	100%	> 20%
Planned Harvesting			6.3
Area available to Harvest (ha):			9.3

Unit ID:	DMR_MA_35		
	Gross Area	NP area	Prod. Area
Unit Area	98.9	4.5	94.4
	Hectares	Percent	Target %
< AC 2	0.0	0%	< 20%
> AC 4	94.1	100%	> 20%
Planned Harvesting			7.3
Area available to Harvest (ha):			11.6

Forecasts

The amount of habitat conserved for Black Tailed Deer is expected to at least remain the same over time. Stillwater Forest Operation will not implement harvesting within winter ranges that do not meet the targets established.

Details/Data Set

Deer Winter Ranges for mountain goats are not legally established in the DFA. The GIS data is maintained in the corporate dataset and will be used for analysis when required. Stillwater Forest Operation is committed to implementing the strategies for each Winter Range as originally agreed to with Steve Gordon of the Ministry of Environment, Lands and Parks.

Monitoring

Deer Winter Ranges are mapped spatially in a layer of the GIS. GIS staff will confirm any depletion from the Deer Winter Ranges annually and the TFL Forester will then report on the indicator performance in the annual SFM Report.

Indicator 1.3.1 The Percentage of the trees planted annually that are GMOs

Element: 1.3 Genetic Diversity *Conserve genetic diversity by maintaining the variation of genes within species and ensuring that reforestation programs are free of genetically modified organisms.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Genetically modified organisms on the DFA.	Genetically modified organisms are not introduced in the DFA	**1.3.1** The percent of the trees planted annually that are genetically modified organisms.	The percent of the trees planted annually that are genetically modified organisms is 0%.	None

History

New Indicator in 2010 with new concept of genetically modified organisms introduced in CSA Z809-08.

Justification

The target aligns with the current legal status: no genetically modified organisms are currently allowed.

Current Status & Interpretation

In 2010, only seedlings from registered seedlots were planted on the DFA. No genetically modified organisms were planted.

Performance

2021: SFO met the target for 2021. No genetically modified organisms were planted.

2020: SFO met the target for 2020. No genetically modified organisms were planted.

2019: SFO met the target for 2019. No genetically modified organisms were planted.

2018: SFO met the target for 2018. No genetically modified organisms were planted.

2017: SFO met the target for 2017. No genetically modified organisms were planted.

2016: SFO met the target for 2016. No genetically modified organisms were planted.

2015: SFO met the target for 2015. No genetically modified organisms were planted.

2014: SFO met the target for 2014. No genetically modified organisms were planted.

2013: SFO met the target for 2013. No genetically modified organisms were planted.

2012: SFO met the target for 2012. No genetically modified organisms were planted.

2011: SFO met the target for 2011. No genetically modified organisms were planted.

2010: SFO met the target for 2010. No genetically modified organisms were planted.

Strategies & Implementation

The only strategy in place related to this indicator is to only use seedlings from seedlots duly registered for use in BC in reforestation programs.

Natural regeneration is also used to enhance restocking of cutblocks.

Forecasts

Based on past experience, there is no expectation that genetically modified organisms would be allowed as restocking material. This assumes that current seed transfer rules continue to remain stable in the future.

Details/Data Set

The seedlot number of all stock planted in the DFA is entered in silviculture records.

Monitoring

The primary means to maintain the silviculture records is through the entry of activity information in CENGEA by the Timberlands Operations.

The Area Planner reports on the indicator performance in the annual SFM Report.

Indicator 1.4.1 Protection of sites of special significance

Element: 1.4 Protected areas & sites of special biological, geological, heritage, or cultural significance

Respect protected areas identified through government processes. Co-operate in broader landscape related to protected areas and sites of special biological and cultural significance.

Identify sites of special geological, biological, or cultural significance within the DFA, and implement management strategies appropriate to their long-term maintenance.

Value	Objective	Indicator	Target	Variance
Identified sites of cultural significance.	Manage for identified sites of cultural significance.	**1.4.1** Protection of sites of special significance.	100% of sacred and culturally important sites that are identified each year have a site specific management strategy including any protection measures jointly developed by WFP and the First Nations.	None

History

This indicator was previously 1.4.2 under the Z809-08 CSA Standard, and has been changed to 1.4.1 to meet the Z809-16 CSA Standard.

February 9, 2022 CAG Meeting: The Target and Variance remain unchanged. How this indicator is reported out on has changed as per recommendations from the 2020 External Audit. The changes will better connect archaeological requirements to the number of blocks harvested in a given year. AIAs typically involve shovel testing which may reveal cultural heritage values. If so then Management Strategies for the archaeological features will be developed and implemented.

Justification

Traditional Use Study (TUS) reconnaissance walks and Preliminary Field Reconnaissance (PFR) reviews are completed with First Nations during the planning phase to identify potential archaeological features. Identifying these features enables them to be managed in the development of harvesting plans on the DFA.

The target and variance reflect the importance of managing for potential effects on culturally important sites.

Current Status & Interpretation

The number of archaeological features identified each year with their corresponding management strategy is as follows:

Year	# of blocks harvested	# of blocks harvested with completed TUS and/or PAFRs	# of blocks harvested with completed AIAs	# of Cultural Heritage Features Found	# of Management Strategies Implemented
2021	34	34	0	0	0
2020	25	25	1	0	0
2019	16	16	0	0	0
2018	30	30	2	0	0
2017	29	29	0	0	0

Performance

2021: SFO met the target for 2021.

2020: SFO met the target for 2020. One Area of otential was identified in 2020 by Sechelt First Nation. This area was shovel tested with negative results.

2019: SFO met the target for 2019. No Areas of Potential were identified during PAFR and TUS surveys.

2018: SFO met the target for 2018. Two Areas of Potential were identified in 2018 by Sechelt First Nation. Both of these areas were shovel tested with negative results.

2017: SFO met the target for 2017. No new archaeological features were identified in 2017. In January 2018 a potential site on Goat Island with a carved-out canoe was brought to WFP's attention. When the site is snow free WFP and Tla'amin will try and locate the canoe.

2016: SFO met the target for 2016. No new archaeological features were identified in 2016

2015: SFO met the target for 2015. No new archaeological features were identified in 2015.

2014: SFO met the target for 2014. No new archaeological features were identified in 2014.

2013: SFO met the target for 2013. No new archaeological features were identified in 2013.

2012: SFO met the target for 2012. No new archaeological features were identified in 2012. The harvesting in Narrows in the spring of 2012 was planned around the known archaeological sites previously identified in the area.

2011: SFO met the target for 2011. No new archaeological features were identified in 2011 and no harvesting occurred in proximity to any known archaeological features.

2010: SFO met the target for 2010. No new archaeological features were identified in 2010 and no harvesting occurred in proximity to any known archaeological features.

Strategies & Implementation

The FSP contains commitments for information sharing with First Nations. WFP works cooperatively with the First Nations on the DFA and completes TUS Reconnaissance walks and PFRs where determined to be appropriate by both parties. If archaeological features are identified, they are mapped by the Planning Department and can then be managed for in the design of the cutblock.

Forecasts

The target is anticipated to be met based on past policy and experience. WFP plans to continue completing TUS reconnaissance walks and PFRs in co-operation with First Nations and therefore we plan to continue to meet the target.

Details/Data Set

Known archaeological features are tracked in the Stillwater Timberlands GIS database to ensure they are managed through time. The management strategy including any protection measures that are implemented is tracked in the appropriate cutblock file.

Monitoring

The primary monitoring will be through cutblock inspections. The TFL Forester reports on the indicator performance in the annual SFM Report.

Indicator 1.4.2 Proportion of identified sites with implemented management strategies

Element: 1.4 Protected areas & sites of special biological, geological, heritage, or cultural significance *Respect protected areas identified through government processes. Co-operate in broader landscape related to protected areas and sites of special biological and cultural significance.* *Identify sites of special geological, biological, or cultural significance within the DFA, and implement management strategies appropriate to their long-term maintenance.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Protected areas identified on and adjacent to the DFA through government processes.	Respect and maintain protected areas identified on the DFA through government processes.	**1.4.2** Proportion of identified sites with implemented management strategies.	100% of identified sites have implemented management strategies.	None

History

This indicator was previously 1.4.1 under the Z809-08 standard, and has been changed to 1.4.2 to meet the Z809-16 standard.

Justification

The target aligns with the current legal status. Government processes normally results in government orders that give legal status to the new requirements.

Current Status & Interpretation

A number of Government processes, past and ongoing, have served to identify areas for protection or special management:

The Protected Area Strategy (PAS): In July 1993, the government of BC established the Protected Area Strategy (PAS) for British Columbia committed to expanding a protected area system that would protect 12% of the province by 2000.

The Ungulate Winter Range (UWR) process: In August of 2003, a Memorandum of Understanding (MOU) on the Establishment of Ungulate Winter Ranges and Related Objectives was developed between MWLAP, the Ministry of Forests (MOF) and the Ministry of Sustainable Resource Management (MSRM). The purpose of the Memorandum of Understanding (MOU) is to expedite and facilitate the orderly confirmation and establishment of ungulate winter ranges (UWR) and related objectives across the province, in order to support the Forest Practices Code and the new Forest and Range Practices Act (FRPA). The MOU clarifies general ministry roles and responsibilities and outlines procedures and considerations to facilitate timely delivery of this initiative. It replaces previous agreements concerning coordination, administrative processes, and consultation requirements. The MOU identifies 3 types of UWR and objectives. The intent is to facilitate, through due process, the cooperative development of objectives to support the FRPA while at the same time maintaining the foundation of stakeholder support, where UWR and objectives have been established through Cabinet-approved strategic land use planning processes.

The Designated Wildlife Habitat Areas (WHA) process: The Government's Identified Wildlife Management Strategy (IWMS) Version 2004 was released in May 2004 and replaces IWMS Volume 1, released in 1999. IWMS Version 2004 contains an updated list of identified wildlife, updated species accounts and updated procedures for implementing the IWMS. The IWMS provides direction, policy, procedures and guidelines for managing Identified Wildlife. The goals of the Strategy are to minimize the effects of forest and range practices on Identified Wildlife situated on Crown land and to maintain their limiting habitats throughout their current ranges and, where appropriate, their historic ranges. Identified Wildlife are managed through the establishment of wildlife habitat areas (WHAs) and the implementation of general wildlife measures (GWMs) and wildlife habitat area objectives, or through other management practices specified in strategic or landscape level plans.

Performance

2021: SFO met the target for 2021. All identified sites have implemented management strategies. Northern Goshawk and Marbled Murrelet WHAs are incorporated into the table below in the *Details/Data Set* section of this indicator.

2020: SFO met the target for 2020. All identified sites have implemented management strategies. As Northern Goshawk and Marbled Murrelet WHAs are approved the applicable management strategies will be incorporated into the table below in the *Details/Data Set* section of this indicator.

2019: SFO met the target for 2019. All identified sites have implemented management strategies. As Northern Goshawk and Marbled Murrelet WHAs are approved the applicable management strategies will be incorporated into the table below in the *Details/Data Set* section of this indicator.

2018: SFO met the target for 2018. All identified sites have implemented management strategies.

2017: SFO met the target for 2017. All identified sites have implemented management strategies.

2016: SFO met the target for 2016. All identified sites have implemented management strategies.

2015: SFO met the target for 2015. All identified sites have implemented management strategies. The OGMA reconciliation for each landscape unit was finalized by WFP and MFLNRO in 2015. The total area of OGMA increased to 7,728ha from 7,645ha from the reconciliation project and OGMA amendments completed over the past year.

2014: SFO met the target for 2014. All identified sites have implemented management strategies. OGMA's for each landscape unit were reviewed by WFP and MFLNRO in 2014 to ensure consistency of the digital OGMA file.

2013: SFO met the target for 2013. All identified sites have implemented management strategies. The area within OGMA was reviewed to capture any changes and the areas have been updated. As OGMA amendments are completed, in general additional area is added and on occasion the MFLNRO completes changes to the OGMA layer.

2012: SFO met the target for 2012. All identified sites have implemented management strategies. The draft OGMA area in the Haslam LU has dropped from 763ha to 111ha due to the takeback of tenure to provide for the Tla'amin First Nation tenure opportunity. The 111 ha is the total OGMA area in the Haslam LU compared to the 100 productive ha in indicator 1.1.1.

2011: SFO met the target for 2011. All identified sites have implemented management strategies.

2010: SFO met the target for 2010. All identified sites have implemented management strategies.

Strategies & Implementation

Western Forest Products cooperates with government processes.

Forecasts

The target is the forecast given that the establishment of protected areas is normally the result of government policies and processes and no change in policy is anticipated.

Details/ Data Set

The following sites have been identified in the DFA through government processes and are now protected or managed:

Processes	Area Name / Landscape Unit	Total Area	Strategy / Status
Old Growth Management Areas (by LU)	Lois (2,048 ha) Bunster (870 ha) Powell Lake (3251 ha) Powell Daniels (1559 ha)	7,728 ha	100% managed
	Haslam (111 ha)	111 ha	Draft and subject to change
Ungulate Winter Ranges (by Order #)	U-2-004 (10,240 ha)	10,240 ha	100% managed
Designated Wildlife Habitat Areas	2-677 Northern Goshawk Powell Daniels	200.8 ha	100% managed
	Marbled Murrelet Order – November 2021. Targets by Landscape Unit Below: Lois (175 ha) Bunster (42 ha) Haslam (1 ha) Powell Lake (642 ha) Powell Daniels (1304 ha)	2,164 ha	Landscape Reserve Areas to satisfy the Order planned for 2022 analysis.
	Marbled Murrelet #2-082 (338 ha)	338 ha	100% protected

Monitoring

The TFL Forester will review for newly amended or designated Protected Areas and update the details. Normally such designations and amendments are referred to affected parties prior to formal designation.

The GIS Specialist compiles the data from the GIS database and the TFL Forester reports on the indicator performance in the annual SFM Report.

Indicator 2.1.1 Reforestation success

Element: 2.1 Forest ecosystem condition and productivity *Conserve ecosystem resilience by maintaining the both ecosystem processes and ecosystem conditions*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The timeliness of regeneration on the DFA.	Harvest areas are regenerated promptly.	**2.1.1** Reforestation success.	The equivalent harvest years of area awaiting reforestation (AAR) annually is < 2 years.	</= 2.5 years annually

History

This is a new core indicator in 2010 and continues under Z809-16 CSA Standard.

February 9, 2022 CAG Meeting: As per recommendations in the 2021 Internal Audit, the Target and Variance have been adjusted downward to better reflect actual performance.

Justification

This indicator provides a measure of success at enhancing ecosystem recovery, accelerating forest growth to maximize carbon absorption, and ensuring that forests are promptly regenerated.

Following harvesting, WFP is legally required to ensure that stands of trees are reestablished within six years of harvesting. The target and variance provide for prompt reforestation that exceeds the legal requirements for the DFA.

Current Status

The equivalent harvest years of area awaiting reforestation is summarized below. This is well below the target of three years used in Management Plan #9.

Year	# of Hectares of AAR	Hectares Harvested	Last 5-year Harvest Average (Ha's)	Equivalent Harvest Years of AAR
2021	318	441	414	0.7
2020	243	370	433	0.6
2019	154	254	463	0.6
2018	391	505	518	0.8
2017	490	502	567	0.9
2016	473	536	598	0.8
2015	618	517	623	1.0
2014	729	532	652	1.1
2013	862	746	624	1.4
2012	789	660	534	1.5
2011	855	660	480	1.8
2010	790	640	434	1.8
2009	490	413	377	1.3
2008	459	297	417	1.1
2007	528	388	480	1.1
2006	547	430	421	1.3
2005	638	382	709	0.9

Performance

2021: SFO met the target for 2021. The two high elevation blocks that were planned for natural regeneration were partially or fully fill planted in 2021, minimum stocking of natural regeneration was achieved in a portion of one of those blocks. Although increasing, the relatively low number of hectares harvested in 2021 (compared to historic levels prior to 2019) is a result of a summer slow down because of fire hazard/heat dome, some high elevation blocks not being completed prior to snow fall, and curtailment of old growth harvesting. Some cutblocks that were not yet harvest complete were planted in fall 2021 because seedlings were available, thereby reducing the hectares of AAR. However, some blocks planned for spring planting were not planted because additional stock was not available (a result of the 2019 strike reduced seedling sowing requests). Also, some blocks originally planned for fall planting were not planted because harvesting and active piling was not complete, or piles were actively being chipped.

2020: SFO met the target for 2020. Two high elevation blocks are still planned for natural regeneration, with a fill plant prescribed for 2021 if minimum stocking is not achieved. The low number of hectares harvested in 2020 is a result of the 2019 strike not being resolved until February 2020 and a slow and safe restart as well as blocks not being harvest complete late in 2020 due to snow. Some blocks that were harvested in early summer were planted soon after harvest, thereby reducing the # hectares of AAR. Some cutblocks that were not yet harvest complete were planted in fall 2020 because seedlings were available, thereby also reducing the hectares of AAR.

2019: SFO met the target for 2019. Two high elevation blocks are still planned for natural regeneration, with a fill plant prescribed if minimum stocking is not achieved. The low number of hectares harvested in 2019 is a result of harvesting curtailment since July and unscaled volumes preventing blocks from being declared harvested. Some blocks that were harvested in late winter and early summer were planted soon after harvest, thereby reducing the # hectares of AAR. Some cutblocks that are not yet harvest complete were also planted in 2019.

2018: SFO met the target for 2018. Two high elevation blocks are planned for natural regeneration, with a fill plant prescribed if minimum stocking is not achieved.

2017: SFO met the target for 2017. Late snows in the spring delayed the completion of some blocks on GI and in PD, postponing the planting until 2018.

2016: SFO met the target for 2016.

2015: SFO met the target for 2015. The 22.8ha harvested by the Tsain-Ko Forestry Development Corp in 2013 was planted in the spring of 2015.

2014: SFO met the target for 2014. The 22.8ha harvested by the Tsain-Ko Forestry Development Corp in 2013 remains in the area awaiting reforestation (AAR) as it is still recorded as not being planted in the MFLNRO database.

2013: SFO met the target for 2013. The 746ha includes the 22.8ha harvested by the Tsain-Ko Forestry Development Corp in 2013 and that is planned for reforestation in 2014.

2012: SFO met the target for 2012.

2011: SFO met the target for 2011.

2010: SFO met the target for 2010. The equivalent harvest years of area awaiting reforestation is well below the target of 3 years. It has increased from 1.3 to 1.8 years due to increased harvesting in 2010 over 2009 and the delay in planting the following spring.

Strategies & Implementation

A strategy of prompt regeneration is completed for a number of reasons, some of which are:

- Full site utilization: maximizes the growing potential of the DFA
- Desired species – Where Fd and Cw are desired, planting is completed
- Green-up for adjacency and visual management – increases harvest opportunities in the short term
- Brushing – prompt planting enables trees to outcompete brush competition
- Reduced brushing – minimizes the amount of herbicides required for brush control
- Improved stock = improved growth

Forecasts

Timber supply analyses have forecast the effect of varying regeneration delay assumptions on the Annual Allowable Cut (AAC). Management Plan #9 includes an assumption of 1 year. This is reduced from 3 years in Management Plan #8. Given current reforestation strategies and practices we expect to continue to meet the target.

Details/Data Set

The data for this indicator is tracked in the CENGEA database which contains the current stocking status for all areas harvested.

The “equivalent years of AAR” is calculated by dividing the un-stocked areas (Areas Awaiting Reforestation, or AAR) by the average harvest hectares for the last five years.

Monitoring

The Silviculture Forester conducts planting and surveys and maintains the current status of all harvested areas in the CENGEA database. The Silviculture Forester ensures that data is compiled, and performance reported, in the annual SFM Plan.

Indicator 2.1.2 Proportion of regeneration comprised of native tree species allowed for under the Approved Forest Stewardship Plan

Element: 2.1 Forest Ecosystem condition and productivity *Conserve species diversity by ensuring that habitats for the native species found in the DFA are maintained through time, including habitats for known occurrences of species at risk.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The existing pool of genes within tree species on the DFA	The existing pool of genes within tree species on the DFA is maintained	**2.1.2** Proportion of regeneration comprised of native tree species	The proportion of regeneration comprised of native tree species as allowed for under the Approved Forest Stewardship Plan is 100%.	None

Link to repeat indicator 1.2.3

Indicator 2.1.3 Additions & deletions to the forest area

Element: 2.1 Forest ecosystem condition and productivity *Conserve forest ecosystem productivity and productive capacity by maintaining ecosystem conditions that are capable of supporting naturally occurring species. Reforest promptly and use tree species ecologically suited to the site.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The productive capacity of the DFA.	Maintain the productive capacity of the DFA to the extent practicable.	**2.1.3** Additions and deletions to the forest area.	1) The % of productive forest deleted due to permanent access structures is < 7% of the DFA. 2) Report third party applications with the potential to impact the available DFA landbase or deletions to the DFA. 3) Report any additions to the DFA.	1) </= 8% 2) None 3) None

Target 1: Permanent Access

History

This indicator was previously 2.2.1 under the Z809-08 standard, and has been changed to 2.1.3 to meet the Z809-16 standard.

Justification

The primary deletion to the forest area that Western can influence is the amount of forest area converted into permanent access structures. Permanent access structures provide access for forest management, recreation, and other purposes. It also decreases the amount of productive forestland available. Maintaining a reasonable balance between access to the forest and maintaining the productive land base is important. The target for this indicator therefore focuses on permanent access structures.

The maximum proportion of a cutblock area that can be occupied by permanent access structures is specified in the site plan for each cutblock harvested. The Forest and Range Practices Act generally limits this amount to 7% unless specific circumstances apply that would require additional roads to be constructed. The variance of </= 8% provides for these situations that are occasionally required for a block to be safely accessed and harvested.

Other deletions to the forest area are generally outside of Westerns influence as these tend to be decisions made by government to convert the forested landbase to other uses. The most recent example is the Plutonic transmission line which crosses through the DFA.

Current Status

The current proportion of the DFA occupied by permanent access structures is as follows:

Year	Summary of Additions and Deletions				
	Total Deletions Roads (Ha)	Total Deletions Other[1] (Ha)	Total Additions (Ha)	Productive DFA Landbase[1] (Ha's)	% of DFA in Permanent Access Structures
2021	1828	0	0	69,104	2.64%
2020	1789	0	0	69,104	2.59%
2019	1750	0	0	69,104	2.53%
2018	1721	0	0	69,104	2.49%
2017	1673	0	0	69,104	2.43%
2016	1635	0	0	69,104	2.36%
2015	1583	0	0	69,104	2.3%
2014	1537	0	0	69,104	2.2%
2013	1490	0	0	69,104	2.2%
2012	1440	3,599	0	69,104	2.1%
2011	1407	0	0	71,620*	2.0%
2010	1363	0	0	74,133	1.8%
2009	1275	0	0	74,133	1.7%

Performance

2021: SFO met the target for 2021. Currently 2.64% of the productive forest area of the DFA has been converted to permanent access structures. A total of 32.6 km of road was constructed in 2021 which is equivalent to 39.1 ha of area based on a 12 meter wide disturbance width on average

2020: SFO met the target for 2020. Currently 2.59% of the productive forest area of the DFA has been converted to permanent access structures. A total of 32.5 km of road was constructed in 2020 which is equivalent to 39.0 ha of area based on a 12 meter wide disturbance width on average.

2019: SFO met the target for 2019. Currently 2.53% of the productive forest area of the DFA has been converted to permanent access structures. A total of 24.2 km of road was constructed in 2019 which is equivalent to 29.1 ha of area based on a 12 meter wide disturbance width on average.

2018: SFO met the target for 2018. Currently 2.49% of the productive forest area of the DFA has been converted to permanent access structures. A total of 40.2 km of road was constructed in 2018 which is equivalent to 48.2 ha of area based on a 12 meter wide disturbance width on average.

2017: SFO met the target for 2017. Currently 2.43% of the productive forest area of the DFA has been converted to permanent access structures. A total of 37.7 km of road were constructed in 2017 which is equivalent to 45.2 ha of area based on a 12 meter wide disturbance width on average.

2016: SFO met the target for 2016. Currently 2.36% of the productive forest area of the DFA has been converted to permanent access structures. A total of 43.5 km of road were constructed in 2015 which is equivalent to 52ha of area.

2015: SFO met the target for 2015. Currently 2.3% of the productive forest area of the DFA has been converted to permanent access structures. A total of 38.7km of road were constructed in 2015 which is equivalent to 46ha of area.

2014: SFO met the target for 2014. Currently 2.2% of the productive forest area of the DFA has been converted to permanent access structures. A total of 39.5km of road were constructed in 2014 which is equivalent to 47ha of area.

2013: SFO met the target for 2013. Currently 2.2% of the productive forest area of the DFA has been converted to permanent access structures. The results include 1.0ha for the roads constructed by Tsain-Ko Forestry Development Corp in 2013.

2012: SFO met the target for 2012. Currently 2.1% of the productive forest area of the DFA has been converted to permanent access structures. The productive landbase is updated to 69,104 ha in 2012 due to updating of the forest cover which includes the removal of the 3,599 ha for the Tla'amin First Nation tenure opportunity.

2011: SFO met the target for 2011. Currently 2.0% of the productive forest area of the DFA has been converted to permanent access structures. *The productive landbase is updated to 71,620 ha in 2011 due to updating of the forest cover which includes the removal of the Toba Montrose transmission line right-of-way.

2010: SFO met the target for 2010. Currently 1.8% of the productive forest area of the DFA has been converted to permanent access structures.

Strategies & Implementation

During detailed block layout, the total road network required to access the block is determined in order to safely access the block while minimizing the cost of road construction. The Forest Stewardship Plan (FSP) specifies limits for site loss due to roads and Site Plans then identifies how this applies to the site based on the detailed block layout.

Forecasts

Overtime, the total deletion of forest land for permanent access structures is expected to increase as access is provided to more of the DFA. As the DFA becomes fully developed the amount of additional deletions for road access will decrease.

Details/Data Set

Measured as a percentage, this indicator is determined by dividing the total area in permanent access structures in the DFA by the total area of productive forest in the DFA. The road network is updated periodically by the GIS specialist. The road network is buffered with a width of 12m to determine the total amount of area associated with permanent access structures.

Monitoring

Ocular post harvest inspections confirm that the limits specified in the Site Plan for permanent access structures are being met.

The GIS Specialist maintains the GIS database with updated road network and productive forest area.

The TFL Forester ensures that data is compiled, and performance reported, in the annual SFM Plan.

Target 2: Other Deletions or Applications for Deletions to the DFA

History

This indicator was previously 2.2.1 under the Z809-08 standard, and has been changed to 2.1.3 to meet the Z809-16 standard.

Justification

This target provides a report of all land deletions to the DFA productive forest. Deletions can take the form of removals for land use changes such as transmission line right of ways, removals for industrial sites etc. Reporting on applications enables a proactive discussion to occur regarding potential impacts to the DFA.

Current Status

There is no current status as this is a new target for the indicator.

Performance

2021: There were no deletions to the DFA in 2021. No applications with the potential to impact the DFA landbase were received in 2021.

2020: There were no deletions to the DFA in 2020. No applications with the potential to impact the DFA landbase were received in 2020.

2019: There were no deletions to the DFA in 2019. No applications with the potential to impact the DFA landbase were received in 2019.

2018: There were no deletions to the DFA in 2018. No applications with the potential to impact the DFA landbase were received in 2018.

2017: There were no deletions to the DFA in 2017. No applications with the potential to impact the DFA landbase were received in 2017.

2016: There were no deletions to the DFA in 2016. No applications with the potential to impact the DFA landbase were received in 2016.

2015: There were no deletions to the DFA in 2015. A company, 1026488 BC Ltd. has made an application to the provincial government for a 5 year Crown land lease application so they can perform an investigation into whether a water power operation on Goat Island is feasible. WFP has not been contacted in regards to this application.

Alterra Power Corp. also announced that they have purchased the water rights to four hydroelectric projects from Sigma Engineering which are located in the Powell, Eldred North, and Eldred South. Alterra announced that these provide new expansion options. WFP has not been contacted regarding any of these areas.

2014: There were no deletions to the DFA in 2014. No applications with the potential to impact the DFA landbase were received in 2014.

2013: There were no deletions to the DFA in 2013. No applications with the potential to impact the DFA landbase were received in 2013.

2012: SFO met the target for 2012. A total of 3.599 hectares was removed to provide for the Tla'amin First Nation tenure opportunity. It is anticipated that this landbase will still provide for timber harvesting opportunities. The Freda Creek run of the river project was being discussed again in 2012 and the project has been transferred to the Tla'amin First Nation and the City of Powell River. It is unknown if the project will proceed and the impacts that will need managed to avoid a repeat of the Toba Montrose project are the transmission line corridor and penstock.

2011: SFO met the target for 2011. There are no sites for reporting in 2010.

2010: SFO met the target for 2010. There are no sites for reporting in 2010.

Strategies & Implementation

Over time deletions can occur to the productive forest as government may decide that there is a better use for the land to society than growing trees.

Forecasts

Historically, there have been few withdrawals of forest land for other uses from the DFA. There have been major withdrawals in the past for parkland which reduced the amount of available working forest but the area has remained forested. The government's Bill 28 take back has also reduced the DFA by

approximately another 35% and this area has also remained primarily in forestry uses. More recently a transmission line has been constructed through the DFA which has converted a linear corridor into non-forestry uses. There are additional proposals for more transmission lines and it is therefore possible that more of the DFA will continue to be diverted to non-forestry uses. It is difficult to know if and when these projects will be completed.

Details/Data Set

Report any deletions to the productive forest each year along with a description of the deletion (location, history). Units will be reported in hectares. Deletions will be reported in the year that the application is approved.

Monitoring

The TFL Forester will monitor for any changes in the DFA and will ensure that the data is compiled, and performance reported, in the annual SFM Plan.

Target 3: Additions to the DFA

History

This indicator was previously 2.2.1 under the Z809-08 standard, and has been changed to 2.1.3 to meet the Z809-16 standard.

Justification

This target provides a report of any land additions to the DFA. Additions can take the form of industrial sites being reclaimed and either reforested or afforested.

Current Status

There is no current status as this is a new target for the indicator. There are currently no known industrial sites in the DFA that are surplus to their original purpose.

Performance

2021: SFO met the target for 2021. There are no sites for reporting in 2021.

2020: SFO met the target for 2020. There are no sites for reporting in 2020.

2019: SFO met the target for 2019. There are no sites for reporting in 2019.

2018: SFO met the target for 2018. There are no sites for reporting in 2018.

2017: SFO met the target for 2017. There are no sites for reporting in 2017.

2016: SFO met the target for 2016. There are no sites for reporting in 2016.

2015: SFO met the target for 2015. There are no sites for reporting in 2015.

2014: SFO met the target for 2014. There are no sites for reporting in 2014.

2013: SFO met the target for 2013. There are no sites for reporting in 2013.

2012: SFO met the target for 2012. There are no sites for reporting in 2012.

2011: SFO met the target for 2011. There are no sites for reporting in 2011.

2010: SFO met the target for 2010. There are no sites for reporting in 2010.

Strategies & Implementation

There are industrial sites located within the DFA. Over time these sites may become surplus to their original purpose and may be candidates for including in the DFA.

Forecasts

Opportunities for additions to the DFA are very limited, thus justifies a reporting target rather than a measured target.

Details/Data Set

Report any additions to the DFA each year along with a description of the addition (location, history). Units will be reported in hectares. Additions will be reported in the year that the application is approved.

Monitoring

The TFL Forester will monitor for any changes in the DFA and will ensure that the data is compiled, and performance reported, in the annual SFM Plan.

Indicator 2.1.4 Proportion of the calculated long-term sustainable harvest level that is actually harvested

Element: 2.1 Forest ecosystem condition and productivity *Conserve forest ecosystem productivity and productive capacity by maintaining ecosystem conditions that are capable of supporting naturally occurring species. Reforest promptly and use tree species ecologically suited to the site.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Stable employment.	The DFA provides a stable employment level.	**2.1.4** Proportion of the calculated long-term sustainable harvest level that is actually harvested.	The 10 year average harvest level does not exceed 10% of the total AAC authorized for two five year cut control periods.	None

History

This indicator was previously 2.2.2 under the Z809-08 standard, and has been changed to 2.1.4 to meet the Z809-16 standard.

Justification

This indicator provides a measure of success towards managing for sustainable harvest levels of timber and economic stability. Cut control is a set of rules and actions specified in the Forest Act that describes the allowable variation in the harvest rate either above or below the annual allowable cut (AAC) approved by the Chief Forester. The allowable variation specified in the Forest Act of 10% of the AAC over a five-year period and an annual variation of up to 50% of the AAC often conflicts with natural market cycles leading to unintended harvesting consequences. As market cycles generally occur over a five-year period, a ten year period is provided for the target in order to better reflect the natural harvest variability that occurs during market cycles.

Current Status

The decreasing AAC is due to the Bill 28 take back completed by government where a significant portion of the TFL was removed and reallocated to other parties. The AAC has been decreased on a proportionate basis. Management Plan 9 will calculate the new AAC for TFL 39.

The most recent cut control period ended in December 2013. The last two cut control periods included the global recession which began in 2006 and the recent improved markets which started in 2010. The average harvest level for these last two control periods is expected to meet the target of the indicator. The previous ten-year period also included a market cycle and the average harvest level also meets the target of the indicator. **For the purpose of assessing this indicator, the 10 year Cut Control increments are as follows: 1996-2005; 2006-2013; 2014-2023; and 2024-2033.**

Year	Actual & Awarded Cut (m3)	DFA Contribution to TFL 39 AAC	% of Actual Cut vs DFA AAC Contribution
2023			
2022			
2021	419,655	469,200	89%
2020	387,319	469,200	83%
2019	265,893	469,200	57%
Totals 2019-2023	1,092,867	1,407,600	78%
Start of new cut control period 2019-2023			
2018	489,979	469,200	104%
2017	483,354	469,200	103%
2016	563,610	427,360	131%
2015	359,849	408,019	88%
2014	485,562	408,019	119%
Totals 2014-2018	2,382,355	2,181,798	109%
Current Status: 10 Year Cut Control Period	**3,475,222**	**3,589,398**	**97%**
Start of new cut control period 2014-2018			
2013	585,835	408,019	144%
2012	494,160	408,019	121%
2011	568,644	430,019	132%
2010	503,798	430,019	117%
2009	408,011	430,019	95%
Totals 2009-2013	2,560,448	2,106,095	122%
Start of new cut control period 2009-2013			
2008	360,681	430,019	84%
2007	368,900	457,282	81%
2006	434,884	457,282	95%
Totals 2006-2008	1,164,465	1,344,583	87%
8 Year Cut Control Period*	**3,724,913**	**3,450,678**	**108%**
Start of new cut control period 2006-2010			
2005	538,230	533,730	101%
2004	459,781	550,000	84%
2003	491,217	550,000	89%
2002	695,719	550,000	126%
2001	652,209	486,795	134%
Totals 2001-2005	2,837,156	2,670,525	106%
Start of new cut control period 2001-2005			
2000	466,144	454,072	102.7%
1999	553,271	472,133	117.2%
1998	376,103	475,000	81.2%
1997	385,937	475,000	81.2%
1996	385,307	455,000	103.2%
Totals 1996-2000	2,166,763	2,331,206	93%
10 Year Cut Control Period	**5,003,919**	**5,001,731**	**100%**

* Note: The 2006-2010 cut control period was terminated in 2008 when it was realized that the market downturn was so significant that there was no possibility of being able to harvest the available AAC over the five-year cut control period.

Performance

2021: The total AAC volume for 2021 includes 26,474 m3 of billed waste.

2020: The total AAC volume for 2020 includes 45,460 m3 of billed waste. SFO harvesting contractors operated for 9 months of 2020 due to the USW strike continuation in the first quarter of 2020.

2019: The total AAC volume for 2019 includes 56,162 m3 of billed waste. SFO harvesting contractors operated for the first 6 months of 2019.

On July 1st the USW union voted to strike against Western Forest Products. Although there are no Western USW employees in Powell River, the USW sawmill workers on Vancouver Island were on strike which impact SFO's ability to harvest and deliver logs to our sawmills.

The strike continued through to the end of 2019 and into 2020. The target harvest volume for 2020 is 350,000 m3 based on the continuance of the strike and the state of the log/lumber market.

2018: SFO is trending towards the 10-year target. The total AAC volume for 2018 includes 49,196 m3 of billed waste covering the 2017 and 2018 cut control years. 2018 marked the end of the cut control period for TFL 39 block 1. Overall cut control for the 5-year period is at 109% of the cumulative AAC.

2017: SFO is trending towards the target. The total AAC volume for 2017 includes 58,219 m3 of billed waste covering the 2016 and 2017 cut control years.

2016: SFO is trending towards the target. The total AAC volume for 2016 includes 81,259 m3 of billed waste covering the 2015 and 2016 cut control years. In August of 2016 FLNRO re-determined the AAC for TFL 39 Block 1 at 469,200 m3.

2015: SFO is on track to achieve the target. FLNRO staff completed their AAC determination meeting on December 10 to 11 in Powell River and is currently writing the AAC determination rationale. The AAC determination is expected in the spring of 2016.

2014: SFO met the target for 2014. The revised harvest level associated with Management Plan #9 for TFL39, Block 1 is projected to be 474,500 m^3. This was originally anticipated to be approved in time for 2014 and therefore the planned harvest for Block 1 in 2014 was based on this revised harvest level. This approval not yet occurred due to priorities and consultation being completed by MFLNRO and approval is now expected to be mid-year 2015.

2013: SFO met the target for 2013. Over the last two cut control periods, 108% of the AAC has been harvested. The volume of special forest products salvage and biomass has not been included as this volume is scaled after waste and residue and would therefore be double counted. A total of 31,872m^3 has therefore not been included. To more accurately reflect the actual year of harvest a total of 43,296m^3 was accounted for in 2012 and not 2013 due to a billing issue that deferred counting of the volume by one year.

2012: SFO met the target for 2012. Over the last five years, approximately 115% of the AAC has been harvested. A total of 17,490m^3 was removed from the total harvest number of 546,742m^3 for take or pay timber that remains standing for future harvest but is included as a part of the 2012 residue reporting.

2011: SFO met the target for 2011. Over the last five years, essentially 100% of the AAC has been harvested.

2010: SFO met the target for 2010. Over the last five years, only 90% of the AAC has been harvested. This is due to poor market conditions in 2007 to 2009 which did not permit the full AAC to be harvested.

A total of 43,296m^3 was removed from the total harvest number of 550,196m^3 for take or pay timber that remains standing for future harvest but is included as a part of the 2010 residue reporting.

Strategies and Implementation

The strategy is to fully utilize the available AAC and even flow the harvest volume while allowing for changing markets.

Forecasts

The expectation is that the average annual harvest level will be met over a ten-year period. A ten-year period is expected to capture the natural market cycles which tend to occur approximately every five years. The demand for wood products is currently high after a significant global recession which began in 2006 and ended in 2010.

Management Plan 9 has been prepared and it is anticipated that the Chief Forester will determine ad updated harvest level for TFL 39 in 2015.

Data/Details

Harvest volumes are reported annually from the Official MFLNROD Scale Report and Stillwater Forest Operation production. Until the official MFLNROD Scale Report numbers are available for reporting in the table above the local Stillwater Forest Operation production numbers are used.

Government has changed the cut control to scaled volumes instead of billing volumes. This caused a one-time shift in the numbers due to the timing of information being available and SFMP reporting. Therefore, the 2006 number has been increased from 408,000 to 434,884. Before the change the difference would simply have been captured in the 2007 SFMP reporting of volume harvested.

Occasionally WFP pays the Crown waste and residue on cutblocks that are not harvested. This volume is counted towards the annual harvest in the Official MFLNROD Scale Report. For greater accuracy, this amount is removed from the annual harvest volumes reported above as this timber is still standing and available for harvest.

Monitoring

The Official MFLNRO Scale Report is received annually by Corporate Forestry. The long-term sustainable harvest level for the DFA is tracked and kept current by Corporate Forestry.

The TFL Forester reports on the harvest volumes and current long-term sustainable harvest level in the annual SFM Plan.

Indicator 2.1.5 Proportion of identified biotic and abiotic factors (fire, wind, insects, and wildlife) with implemented management strategies

Element: 2.1 Forest ecosystem condition and productivity *Conserve ecosystem resilience by maintaining the both ecosystem processes and ecosystem conditions*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Harmful biotic and abiotic impacts to the trees within the DFA.	To manage for harmful biotic and abiotic impacts to trees within the DFA.	**2.1.5** Proportion of identified biotic and abiotic factors (fire, wind, insects, and, wildlife) with implemented management strategies.	Proportion of identified biotic and abiotic factors (fire, wind, insects, and, wildlife) with implemented management strategies is 100%.	None

History

This is a Local Indicator developed in 2013.

This indicator was previously 2.1.2 under the previous SFMP, and has been changed to 2.1.5 to align with changes made to core indicators under the Z809-16 CSA Standard.

Justification

Trees are impacted by a number of biotic and abiotic factors. Biotic factors are living impacts such as insect disease and attack or wildlife browsing of trees. Abiotic factors are non-living impacts such as wind and fire damage to trees. The forest is continually exposed and impacted by both biotic and abiotic factors. Management strategies are implemented in order to minimize the impacts from insects, fire, and wind.

The target and variance confirm the importance of having management strategies in place to manage for biotic and abiotic impacts to the forests on the DFA.

Current status

The impacts experienced annually from insects, fire, wind, and wildlife are summarized below from 2006 to present.

Year	Insect Attack Areas (#)	Fire (ha)	Windthrow (ha) (area logged under the blanket salvage or Cutting Permit)	Sites Damaged by Wildlife (#)	Comments
2021	~200	2.5	0.0	0	In 2021 the infestation of Hemlock Looper became larger than in 2020 with light defoliation. Aerial surveys of the TFL indicate approximately 200 ha of new light defoliation in the TFL in the vicinity of Deer Creek. Fire # V50948 in Powell Daniels
2020	~500	0.0	0.0	0	In 2020 an infestation of Hemlock Looper became apparent throughout the TFL with light defoliation. Aerial surveys of the TSA indicate approx. 4,300 ha of light to severe defoliation, with approximately 500 ha of light defoliation in the TFL.
2019	0	0.0	1.7	0	In 2019 we harvested a 1.7 ha patch of blowdown in the vicinity of Freda Lake. HemBal Leading stand.
2018	0	0.05	0.0	0	In 2018 there was 1 small fire within TFL 39 block 1 totalling 0.05 ha. Periodic single stem blowdown is noted but no larger blowdown events were discovered in 2018.
2017	0	0.02	0.0	0	In 2017 there were 2 small fires within TFL 39 block 1 totalling 0.02 ha. Periodic single stem blowdown is noted but no larger blowdown events were discovered in 2017.

2016	0	6	1.5	0	In 2016 there was a natural fire within a plantation of 6.0 hectares. This burned area is scheduled for re-planting in 2016. Approximately 1.5 hectares of blowdown was discovered in the vicinity of Freda Lake. This blowdown patch adjacent to ST-026 will be harvested in early 2017.
2015	0	0	2.7	0	In 2015 the Douglas-fir bark beetle remained at endemic levels. The Douglas-fir pole beetle damage to the tops of Fd trees continues to be evident. No major windstorm occurred in 2015. A 2.7ha area was salvaged for windthrow (PD-167) but no other material concentrations of windthrow for salvaging were identified. There were no fires reported in 2015.
2014	0	0	0.5	0	In 2014 the Douglas-fir bark beetle remained at endemic levels. The Douglas-fir pole beetle damage to the tops of Fd trees continues to be evident. No major windstorm occurred in 2014. A 0.5ha area was salvaged for windthrow on Conchie Main. There were no fires reported in 2014.
2013	0	0.5	0	0	In 2013 the Douglas-fir bark beetle population remained at endemic levels. There was some fresh beetle kill in the Deer Creek area but it was relatively minor. The Douglas-fir pole beetle continues to kill the tops of trees in the Stillwater valley and Powell Lake areas. No major windstorms occurred in 2013 and no material concentrations of windthrow for salvaging were identified. There were two small fires in 2013: 1. PD F&B, chainsaw, 0.01ha 2. WL-913, pile burning, 0.5ha
2012	10	0	0.1	0	In 2012 the Douglas-fir bark beetle population was back to endemic levels. A new insect, the Douglas-fir pole beetle, has been identified and is defoliating the tops of dominant Douglas-fir in several areas of the DFA; most notably in Lewis Lake, Goat Island, and lower Goat Main areas. Little is known about this beetle and we have adopted a monitoring position at this time. No major windstorms occurred in 2012 and only minor windthrow salvage was required.

2011	8.0	0	0	0	In 2011 an extensive program was implemented to combat the outbreak of the Douglas-fir bark beetle. 100 phermone traps were installed near beetle attack areas, and in 80 locations trap trees were felled in the spring and harvested in the fall. Indications are that the outbreak is almost over. Leader clipping of young Douglas-fir was noted in several locations. No major windstorms in 2011.
2010	25	0	3.9	0	An outbreak of Douglas-fir bark beetle became evident in 2010 with several hundred small pockets of dead trees identified. Aggressive trap tree and salvage program is underway in 2011.
2009	0	0	0	-	No major windstorms in 2009. No bark beetle noted to date from the major 2006/2007 windthrow event.
2008	0	0.5	0	-	No major windstorms. No new leader clipping on Fd regeneration.
2007	0	0	5.5	-	Major salvage program completed this year to reduce host material for Douglas-fir bark beetle.
2006	0	-	120.3	-	Major windstorms occurred between Nov 15 and Dec 31 that resulted in substantial windthrow.

Performance

2021: SFO met the target for 2021. Management strategies are in place for each biotic and abiotic factor as outlined in detail below.

2020: SFO met the target for 2020. Management strategies are in place for each biotic and abiotic factor as outlined in detail below.

2019: SFO met the target for 2019. Management strategies are in place for each biotic and abiotic factor as outlined in detail below.

2018: SFO met the target for 2018. Management strategies are in place for each biotic and abiotic factor as outlined in detail below.

2017: SFO met the target for 2017. Management strategies are in place for each biotic and abiotic factor as outlined in detail below.

2016: SFO met the target for 2016. Management strategies are in place for each biotic and abiotic factor as outlined in detail below.

2015: SFO met the target for 2015. Management strategies are in place for each biotic and abiotic factor as outlined in detail below.

2014: SFO met the target for 2014. Management strategies are in place for each biotic and abiotic factor as outlined in detail below.

2013: SFO met the target for 2013. Management strategies are in place for each biotic and abiotic factor as outlined in detail below.

2012: SFO met the target for 2012. Management strategies are in place for each biotic and abiotic factor as outlined in detail below.

2011: SFO met the target for 2011. Management strategies are in place for each biotic and abiotic factor as outlined in detail below. An extensive trap tree and salvage program was implemented in 2011 to aggressively manage for the Douglas fir bark beetle outbreak.

2010: SFO met the target for 2010. Management strategies are in place for each biotic and abiotic factor as outlined in detail below. An extensive trap tree and salvage program is being implemented in 2011 to aggressively manage for the Douglas fir bark beetle outbreak that started in 2010.

Strategies & Implementation

- Management strategies for insects and diseases include identification of the pest, prescribing control measures, and salvage of infected timber where possible.
- Management strategies for fire includes monitoring of fire weather ratings, shutdowns during extreme dry weather, maintaining adequate fire tools, fire fighting training, and annually updating our fire response plan.
- Management strategies for windthrow includes completing detailed windthrow assessments during the cutblock design and layout process and where windthrow is expected to significantly impact other resource values, edge crown pruning is prescribed and carried out to minimize the impact.
- Management strategies for wildlife include planting browse resistant species, installing browse protection, and animal population control through hunting and relocation.

Forecasts

Based on past experience and the ongoing management regime for the DFA it is expected that management strategies will continue to be implemented for the various biotic and abiotic impacts present in the forests of the DFA. Some modeling completed of climate change is forecasting increases in extreme weather and temperatures for the south coast which could increase the incidence and severity of impacts to the forests in the DFA.

Details/Data Set

This indicator will be determined by confirming each year that a management strategy is in place for the various biotic and abiotic factors. The details of the current management strategies are located as follows

- The management strategy and details regarding the current bark beetle outbreak is tracked in the central filing system.
- The management strategy for fire is located within the current version of the Emergency Preparedness and Response Plan (EPRP) located on the WFP intranet site.
- WFPs overall management strategy for windthrow is located on the current WFP intranet site with block specific strategies located with the harvest plan file for each cutblock.
- The management strategy for wildlife is located within the silviculture instructions for each cutblock within the site plan file for each cutblock.

Monitoring

The foresters monitor field observations from Stillwater staff, government agencies, and the public to forecast and manage for potential disease, insect, and wildlife damage. Windthrow is monitored during cutblock inspections and salvaged under the blanket salvage or Cutting Permit where feasible. Fires are reported to the local fire base.

Indicator 2.1.6 The amount of area treated with herbicide is used for brush control on the DFA

Element: 2.2 Forest ecosystem productivity *Conserve forest ecosystem productivity and productive capacity by maintaining ecosystem conditions that are capable of supporting naturally occurring species. Reforest promptly and use tree species ecologically suited to the site.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The use of herbicides on the DFA.	To minimize the use of herbicides on the DFA to the extent practicable.	**2.1.6** The amount of area where herbicide is used for brush control on the DFA.	The amount of area where herbicide is used for brush control on the DFA is ≤ 25% of the total area brushed on a five-year rolling average.	≤ 40%

History

This is a Local Indicator developed in 2001.

This indicator was previously 2.2.3 under the previous SFMP, and has been changed to 2.1.6 to align with changes made to core indicators under the Z809-16 CSA Standard.

The indicator was updated in November 2013 to a five-year rolling average target in place of an annual target. This better reflects the variability in brushing that occurs over time based on the previous years' harvest history.

Justification

On some sites, brush control is essential for the establishment of new stands of trees. Brush can be controlled through either manual brushing methods or herbicides. Herbicides are only used in circumstances where they are more effective, safe, and economical to use than manual methods. The variance is to account for years where the amount of herbicide used is higher due to the variability of harvest areas and previous harvest history. The target is based on using 2007 as a baseline.

Current Status

A summary of the hectares treated by method is as follows:

Year	Hectares treated by method					
	Manual methods (ha)		Herbicide methods (ha)			
	Girdling	Brush Saw or other manual method	Individual tree	Ground foliar	Grand total of all methods (ha)	% Herbicide
2021	215.9	39.0	14.0	0.01	268.9	5.2%
2020	121.8	95.0	13.5	0	230.3	5.9%
2019	53.4	76.7	0	0	130.2	0 %
2018	196.4	67.4	48.5	0	312.3	15.5 %
2017	79.6	103.8	105.6	0	289	36%
Five Year Average	133.4	76.4	36.3	0	246.1	14.8%
2016	138	59	58	0	255	23%
2015	74	107	51	0	232	22%
2014	258	83	73	0	414	18%
2013	131	128	181	0	440	41%
2012	99	68	167	0	334	50%
2011	159	102	50	8	319	18%
2010	216	117	98	9	440	24%
2009	329	203	73	16	621	15%
2008	136	38	0	0	174	0%
2007	249	101	87	23	460	24%
2006	145	97	132	35	409	41%
2005	195	69	414	5	683	61%
2004	350	104	146	66	666	32%
2003	139	82	147	96	464	53%
2002	166	187	239	34	625	44%
2001	250	124	206	46	626	41%

Performance

2021: SFO met the target for 2021. 5.2% of the area brushed in 2021 used herbicides. Overall brushing treatments were higher than in recent years because we were able to get an early start with one of our contractors. However, extremely dry conditions during the summer and contractor availability in the fall limited all treatments later in the season. Although the need to use herbicides was higher, treatment opportunities were also affected by the extreme heat in the summer and early rains in the fall. Note that a very small area of ground foliar herbicides were used on retreating roadside invasive plants (Japanese Knotweed).

2020: SFO met the target for 2020. 5.9% of the area brushed in 2020 used herbicides. Although the need to use herbicides was higher, the new Pest Management Plan was not approved until late in the season, which limited the number of blocks that could be treated. Overall brushing treatments were again lower in 2020 than in most previous years because of curtailed spending early in the year as a result of the strike as well a slow start to the brushing program as a result of Covid-19.

2019: SFO met the target for 2019. 0% of the area brushed in 2019 used herbicides. Although there was a need to use herbicides, we had no approved Pest Management Plan, so no herbicide could be

used. Overall brushing treatments were significantly lower in 2019 that in all previous years because of curtailed spending as a result of the strike.

2018: SFO met the target for 2018. Only 15.5% of the area brushed in 2018 used herbicides.

2017: SFO met the variance for 2017. A total of 36% of the brushing completed in 2017 used herbicides, which meets the variance. The five-year rolling average is at 32%, still above the target because of 2 years of higher use. The herbicide use was higher in 2017 for a number of reasons: (1) In the blocks requiring treatment in 2017, 1/3 were best managed with herbicides to control maple coppices, dense cherry and other hardwoods; (2) manual treatments early in the season were time consuming, limiting other treatments; (3) the fire season limited other types of treatments that could be carried out during the summer and early fall; (4) budget constraints curtailed other planned treatments later in the season.

2016: SFO met the variance for 2016. A total of 23% of the brushing completed in 2016 used herbicides, which is below the average. The five-year rolling average is at 32%, still above the target because of 2 years of higher use. We anticipate that in 2017 the five-year rolling average will start trending back towards the target as we will see high use years 2012 (50%) and 2013 (41%) drop off the list.

2015: SFO met the variance for 2015. A total of 22% of the brushing completed in 2015 used herbicides, which is below the average. The five-year rolling average is at 30%. Overall in 2015, hectares of brushing were lower than previous years due to an extended fire season which restricted chainsaw use.

2014: SFO met the variance for 2014. A total of 18% of the brushing completed used herbicide which is below the average. The five-year rolling average is however at 30%.

2013: SFO met the variance for 2013. A total of 28% of the brushing completed used herbicide which meets the variance established for the target. The focus of the herbicide use in 2013 was to control maple coppices and dense alder and cherry.

2012: SFO did not meet the target for 2012. A total of 50% of the brushing completed used herbicides. The suite of blocks requiring treatment in 2012 was best managed with herbicides. In about half of the blocks where herbicide was used, the main objective was to control maple coppices and other hardwoods. In the other, herbicide was used to control dense cherry or dense young alder. Both maple and cherry are not easily controlled through manual methods.

2011: SFO met the target for 2011. Only 18% of the area brushed in 2011 used herbicides.

2010: SFO met the target for 2010. Only 24% of the area brushed in 2010 used herbicides.

Strategies & Implementation

In order to regenerate well stocked and healthy forests, brushing is sometimes required. Brush competition can overtop growing seedlings which slows their growth, leads to poor site occupancy, and in some situations kills them. In order to minimize these impacts brushing is completed to ensure regeneration trees have adequate light and nutrients. The type of brushing method used is based on a number of factors including:

- The type of brush to be treated
- The size of the regenerating trees
- The location of the area to be brushed – proximity to water

There are several strategies for minimizing the use of herbicides including:

- Treating brush problem areas early when the brush or coppices are still small and therefore require less herbicide
- Careful monitoring of stand development where alder is present to maximize the amount of area that can be manually treated through girdling. This strategy is based on letting the alder grow to a size that can be safely girdled without letting it reach a size will it will cause crop tree mortality.

Forecasts

Brush control will continue to be essential for re-establishing productive well stocked forests on the DFA. The use of manual methods will continue to be maximized where the results are comparable to the use of herbicides. However, there are situations where herbicides are more effective, safe, and economically feasible and are expected to continue as a minor component of the overall annual brushing program.

Details/Data Set

The area treated annually by brushing method is tracked in the CENGEA database.

Monitoring

The Area Planner reports on the indicator performance in the annual SFM report.

Indicator 3.1.1 Level of soil disturbance

Element: 3.1 Soil quality and quantity *Conserve soil resources by maintaining soil quality and quantity*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The productive capacity of the soil.	Harvest operations are conducted such that the productive capacity of the soil is maintained or improved.	**3.1.1** Level of soil disturbance	The annual number of harvest openings in which soil disturbance exceeds the levels specified in the Site Plan is zero.	None

History

New Core Indicator in 2010, and continues under the Z809-16 CSA Standard.

Justification

Excessive soil disturbance can have a negative effect on the productive capacity of soils. Some soil disturbance can actually have a beneficial effect on soil productivity on some sites. At the time of the post-harvest assessment, soil disturbance is assessed to ensure the amount of disturbance is within the acceptable limits.

The Forest and Range Practices Act (FRPA) specifies limits for soil disturbance based on the sensitivity of forest soils. Prior to harvesting, the acceptable level soil disturbance is determined, and this amount is specified in the Site Plan. The target and variance reflect that the FRPA requirements for soil disturbance must be met across each cutblock harvested.

Current Status & Interpretation

The number of openings where the soil disturbance exceeds the acceptable amount specified in the Site Plan is summarized below:

Year	Number of Openings
2021	0
2020	0
2019	0
2018	0
2017	0
2016	0
2015	0
2014	0
2013	0
2012	0
2011	0
2010	0
2009	0
2008	0
2007	0
2006	0
2005	0

Performance

2021: SFO met the target for 2021. Harvesting was completed on 34 blocks in 2021. Of these, 32 blocks have completed Post Harvest Assessments or Harvest Completions (the new standard implemented in 2021). In addition, 3 blocks that were not accessible in late 2020 were also assessed. No soil disturbance issues were identified through the 9 Post Harvest Inspections or regular cutblock inspections.

2020: SFO met the target for 2020. 25 blocks were harvested in 2020. Of these, 12 blocks have completed Post Harvest Assessments, 3 blocks have in-progress Post Harvest Assessments, and 10 blocks have carry forward volume into 2021. No soil disturbance issues were identified through the 9 Post Harvest Inspections or regular cutblock inspections.

2019: SFO met the target for 2019. 16 of the 16 blocks completely harvested in 2019 had a post-harvest inspection completed and no soil disturbance issues were identified. Post-harvests were also completed on 3 blocks that were harvested, but have unscaled volume preventing them being harvest complete. Another 3 post harvests were partially completed on blocks with volume still decked on site; these will be completed in 2020. No soil disturbance issues were identified on these latter 6 blocks.

2018: SFO met the target for 2018. 28 of the 30 blocks harvested in 2018 had a post-harvest inspection completed and no soil disturbance issues were identified. Post-harvests were not completed on 2 blocks harvested in 2018 prior to snowfall; these will be assessed in 2019.

2017: SFO met the target for 2017. Twenty-six of the 28 conventional blocks harvested in 2017 had a post-harvest inspection completed and no soil disturbance issues were identified. Post-harvests were not completed on 2 conventional blocks harvested in 2017 prior to snowfall; these will be assessed in 2018.

2016: SFO met the target for 2016. Twenty nine of the conventional blocks harvested in 2016 had a post-harvest inspection completed and no soil disturbance issues were identified. Post-harvests were not completed on 5 conventional blocks and four heli blocks harvested in 2016 prior to snowfall; these will be assessed in 2017.

2015: SFO met the target for 2015. All conventional blocks harvested in 2015 had a post-harvest inspection completed and no soil disturbance issues were identified. A total of 19 post harvest inspections were completed in 2015. Post-harvests were not completed on the four heli blocks harvested in 2015 prior to snowfall; these will be assessed in 2016.

2014: SFO met the target for 2014. All blocks harvested in 2014 had a post-harvest inspection completed and no soil disturbance issues were identified. A total of 49 post harvest inspections were completed in 2014.

2013: SFO met the target for 2013. All blocks harvested in 2013 had a post-harvest inspection completed and no soil disturbance issues were identified.

2012: SFO met the target for 2012. Soil disturbance continues to be managed successfully across the DFA.

2011: SFO met the target for 2011. Soil disturbance continues to be managed successfully across the DFA.

2010: SFO met the target for 2010. Soil disturbance continues to be managed successfully across the DFA.

Strategies & Implementation

Prior to harvesting an area, an assessment is completed of the sensitivity of the soils to compact, erosion, and displacement. This then determines the amount of acceptable soil disturbance. This level is specified in the site plan for the area harvested. Particularity sensitive areas are identified prior to harvesting and specific prescriptions and strategies are put into place for the site. Post harvest surveys of all areas harvested ensure that the level of disturbance is not exceeded. To guide operations, Standard Operating Procedures are in place to assist machine operators with techniques and strategies to minimize soil disturbance.

Forecasts

The use of ground based falling and yarding continues to increase in the DFA. Experience is demonstrating that soil disturbance limits continue to be met with the increased use of ground based equipment. Western expects to continue to meet the soil disturbance limits specified in the Site Plan.

Details/Data Set

Soil disturbance limits are measured by an ocular review at harvest completion as part of the post harvest assessment. The post harvest assessments are retained for each block harvested and tracked in CENGEA.

Monitoring

The Area Planner co-ordinates the completion of the post harvest assessments, ensures the information is tracked in CENGEA, and reports on the data in the annual SFM report.

Indicator 3.1.2 Level of downed woody material

Element: 3.1 Soil quality and quantity *Conserve soil resources by maintaining soil quality and quantity*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Maintaining soil quality and quantity.	Woody debris is retained after harvesting to maintain soil quality and quantity.	**3.1.2** Level of downed woody material.	The annual level of dispersed downed woody material is on average > 10m^{3}ha.	None

History

New Core Indicator in 2010, and continued under the Z809-16 CSA Standard.

The indicator was updated on November 12, 2014 to include an estimate of the amount of woody material removed from harvested areas after the waste and residue survey is completed at harvest completion.

Justification

Dead wood is an important component of ecosystems. Coarse woody debris both standing and downed decomposes over time resulting in organic matter that eventually becomes part of the soil. The target level is set at the allowable waste benchmark for immature stands in the provincial Log Residue and Waste Manual [Amendment #9].

Current Status & Interpretation:

Coarse woody debris is being retained onsite at harvest completion. The average level of downed woody debris at harvest completion is as follows:

Year	Woody material at harvest completion (m^3/ha)	Woody material burned at roadside for fire hazard abatement (m^3/ha)	Woody material removed for biofuels (m^3/ha)	Woody material removed for special forest products (m^3/ha)	Woody material removed for firewood (m3/ha)	Woody material available for organic matter after all activities completed (m^3/ha)
2021	44	2	18	1	8	15
2020	60	3	17	2	8	30
2019	52	2	10	1	0	39
2018	61	2	12	2	0	45
2017	64	4	14	6	0	40
2016	78	5	3	1	0	69
2015	88	0	3	1	0	84
2014	80	28	0	1	0	51
2013	68	19	8	1	0	40
2012	64	4	21	4	0	34
2011	49	2	12	0	0	35
2010	62	10	2	1	0	49

Performance

2021: SFO met the target for 2021

2020: SFO met the target for 2020

2019: SFO met the target for 2019. Firewood cutting should also be quantified like biofuels and minor products. The table below shows an estimate for the volume of firewood cut since 2017. A cord of firewood equals 3.6 m3. Based on the total area waste and residue surveyed in 2019, approximately 8 m3/ha of volume was removed for firewood.

Year	# of permits issued	Maximum cords	Total Cords	Volume (m3)
2017	162	6 per permit	972	3,499
2018	396	6 per permit	2,376	8,554
2019	141	6 per permit	846	3,046

2018: SFO met the target for 2018.

2017: SFO met the target for 2017.

2016: SFO met the target for 2016.

2015: SFO met the target for 2015. The average m^3/ha is higher in 2015 because no pile burning was completed.

2014: SFO met the target for 2014.

2013: SFO met the target for 2013. The average m^3/ha is higher in 2013 than 2012 due to the Powell Daniels helicopter program.

2012: SFO met the target for 2012.

2011: SFO met the target for 2011.

2010: SFO met the target for 2010.

Strategies & Implementation

In the normal course of harvesting operations coarse woody debris is retained within reserves and within the harvest area for each cutblock harvested. The amount of woody debris retained within harvest areas is a function of the stand type, cutblock location, harvest system, and current market conditions.

There are several strategies for retaining coarse woody debris within cutblocks and across the DFA:

- The Western Forest Strategy (refer to indicator 1.1.4 for more details) manages for both downed and standing coarse woody debris within retention and reserve areas associated with each cutblock harvested. This strategy maintains a portion of the original stand structure including the live and dead standing trees and downed coarse woody debris in varying patterns across the DFA.
- Coarse woody debris is retained in the extensive network of Old-Growth Management Areas and other wildlife reserves distributed across the DFA.

- Within the harvested portion of the cutblock coarse woody debris is created during harvesting from the tops of trees, poor form logs, but portions of logs, and from existing rotten logs that are not merchantable.

Forecasts

Based on past experience it is expected that this level of dispersed downed woody debris will continue to be met. As the use of biofuels continues to increase it is foreseeable that the levels of woody debris left at harvest completion will continue to be less. Current woody debris levels are primarily a function of timber value and the ability to economically remove some of the poorer quality timber grades. Levels of woody debris remaining within the harvested portion of the cutblock will therefore tend to fluctuate with market conditions into the future.

Details/Data Set

Waste surveys are completed for each cutblock. This data is summarized on an annual basis to determine an average amount retained for the year. This data spans blocks logged over multiple years dependent upon the harvest completion date and timing of the residue survey. The data is tracked on a spreadsheet.

After the waste survey is completed, additional amounts of woody debris are removed from some cutblocks. Woody debris is removed through pile burning which is completed for fire hazard abatement requirements and for value added activities such as biofuels and other special forest products. The amount of material removed by pile burning is estimated in the calculation of indicator 4.1.1. The estimated amount of material burned in indicator 4.1.1 is reduced by 50% for this indicator as piles are composed of tops and branches in addition to the woody debris that is measured in the waste survey. The amount of woody debris removed for biofuels and other special forest products is recorded in indicator 5.1.1. The amount of material removed for biofuels is also reduced by 50% for this indicator as biofuels also removes branches and tops in addition to the woody debris recorded in the waste survey. The amount of woody debris removed for minor products is not reduced as these products tend to be removed from material that is included in the waste survey. The final amount of woody material remaining is therefore determined by subtracting the sum of the amount of material burned, used as biofuel, and other special forest products from the amount of woody debris estimated by the waste survey at harvest completion.

Monitoring

The amount of woody debris remaining onsite within the harvested areas at harvest completion is measured as logging residue and must be paid for in accordance with the provincial Log Residue and Waste Manual [Amendment #9]. The amount of logging residue is measured by a qualified assessor during a waste and residue survey.

The amount of material burned is recorded consistent with indicator 4.1.1 and the amount of biofuels and special forest products is recorded consistent with indicator 5.1.1.

The TFL Forester co-ordinates the completion of the waste surveys, tracks the information, and reports on the data in the annual SFM report.

Indicator 3.2.1 Proportion of watershed or water management areas with recent stand replacing disturbance

Element: 3.2 Water quality and quantity *Conserve water resources by maintaining water quality and quantity*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Water quality and quantity within community watershed water management areas.	Maintain water quality and quantity within community watershed water management areas.	**3.2.1** Proportion of watershed or water management areas with recent stand replacing disturbance.	The proportion of community watershed water management areas with recent stand level disturbance is less than 30% or other limit that may specified in a detailed Community Watershed Assessment Plan.	None

History

New Core Indicator in 2010, and continued under the Z809-16 CSA Standard.

Justification

There are three community watersheds within the DFA. Certain watersheds are legally designated as community watersheds given their importance for supplying potable water. This legal designation provides for additional harvesting and road building requirements that are outlined in the Forest and Range Practices Act (FRPA) and the Forest Stewardship Plan. Prior to harvesting within a community watershed a calculation of the current proportion of the watershed with recent stand replacing disturbance is generally completed as standard practice. A limit of 30% is the general guide provided for in the Community Watershed Guidebook [October 1996] but this amount may be adjusted when a detailed assessment of the watershed is completed.

Current Status & Interpretation

WFP generally completes very little harvesting in the three community watersheds in the DFA as there are only relatively minor overlaps. Prior to harvesting in a community watershed the proportion of the watershed man%agement area with stand replacing disturbance will be determined and reported in the following table for the year harvesting is completed.

Community Watershed	Current proportion of watershed with recent stand replacing disturbance (%)	Recommended proportion of watershed with stand replacing disturbance (%)
Haslam/Lang	12.9% (2022)	24%
Jefferd Creek	11.9% (2019)	30%
Silver Creek	-	-

Performance

2021: SFO met the target for 2021. There was no harvesting within Community Watersheds in 2021.

2020: SFO met the target for 2020. There was no harvesting within Community Watersheds in 2020. Based on the 2018 analysis of the Jefferd Creek Watershed and the 2015 analysis of the Haslam Lang Watershed (LANG10 sub basin), the ECA % is within allowable limits for each watershed.

The Haslam Lang Watershed is currently having an updated watershed analysis and report prepared which will be released by the spring of 2021.

2019: SFO met the target for 2019. Small portions of 2 harvested blocks were in community watersheds. A very small portion (approx. 0.2 ha) of LL-072 overlaped with the Jefferd Creek Watershed, and a portion (approx. 2.5 ha) of ST-289 overlaped the Haslam Lang Community Watershed. Based on the 2018 analysis of the Jefferd Creek Watershed and the 2015 analysis of the Haslam Lang Watershed (LANG10 sub basin), the addition of these small harvested portions will not cause the ECA % to exceed allowable limits for each watershed.

The Haslam Lang Watershed is currently having an updated watershed analysis and report prepared which will be released by the fall of 2020.

2018: SFO met the target for 2018. Small portions of 3 harvested blocks (ST-288, ST-344, and ST-350) were located in the Haslam Lang Community Watershed. Based on the the 2015 analysis of the Haslam Lang Watershed (LANG10 sub basin) the ECA was calculated at 16.88%. The addition of these small harvested portions will not cause the ECA % to exceed 24% of the watershed area.

2017: SFO met the target for 2017. Based on the the 2015 analysis of the Haslam Lang Watershed (LANG10 sub basin) the ECA was updated to 16.88%. There has been no harvesting in the Jeffered Creek Watershed in 2017. An analysis was recently completed on the Jefferd Creek Watershed in 2017 indicating that the current ECA is at 11.9%.

2016: SFO met the target for 2016. Based on the the 2015 analysis of the Haslam Lang Watershed (LANG10 sub basin) the ECA was updated to 16.88%.

2015: SFO met the target for 2015. WFP harvested LL-039 in 2015 which is partially located inside the Jefferd Creek community watershed. An updated ECA calculated for the watershed with the new harvesting included is 13%. This is a conservative number as it assumes no recovery for immature stands which were harvested approximately 10 years ago which are recovering hydrologically. The previous CWAP completed for the Jefferd Creek Community Watershed recommends a weighted ECA of less than 30%.

2014: SFO met the target for 2014. WFP completed no harvesting in community watersheds in 2014. LL-039 is scheduled for harvesting in the Jefferd Creek community watershed in 2015. An updated Community Watershed Assessment for the Haslam/Lang is currently being prepared and will be finalized in harvested 2015. Harvesting planned for 2016 will be prepared consistent with this updated assessment.

2013: SFO met the target for 2013. WFP harvested ST-327 in 2013 which is partially located inside the Haslam/Lang community watershed. The analysis completed prior to harvesting confirmed that the harvesting is within the recommended levels of stand replacing disturbance.

2012: SFO met the target for 2012. WFP completed no harvesting within the community watersheds in 2012. Harvesting is planned within the Haslam/Lang community watershed in 2013 and the analysis has been completed to confirm that the harvesting will within the recommended levels of stand replacing disturbance. This data will be reported in the 2013 indicator results.

2011: SFO met the target for 2011. WFP completed no harvesting within the community watersheds in 2011.

2010: SFO met the target for 2010. WFP completed no harvesting with the community watersheds in 2010. The Community Forest reports that they are managing to limits of recent stand level disturbance by sub-basin within the Haslam/Lang Community Watershed.

Strategies & Implementation

Particular attention is focused on managing riparian areas and roads within community watersheds. Within the DFA, riparian reserve and management areas are implemented according to FRPA requirements. These requirements specify that the reserve requirements for fish bearing streams be applied to non-fish bearing streams within community watersheds.

Strategies include:

- Working closely with regional and community water boards regarding practices and standards in community watersheds. The Haslam Lake/Lang Creek watersheds are the major sources of water in the Powell River area. Stillwater Forest Operation is a member of the Integrated Watershed Management Planning Team for Haslam Lake and Lang Creek.
- Ensure that roads are constructed and maintained to required standards.
- Aerial yarding systems (helicopter) have increasingly been used in sensitive areas to minimize road density and reduce environmental risks.
- Develop and implement road deactivation plans, and reduce erosion through dry seeding disturbed soils.
- Completing an assessment prior to harvesting to ensure the proportion of recent stand replacing disturbance will not negatively affect water quality and quantity.

Forecasts

Prior to proposing harvesting within a community watershed the proportion of community watershed water management areas with recent stand level disturbance will be determined to ensure it is consistent with the recommended level. We therefore anticipate meeting the target of this indicator as future harvesting is completed within the three community watersheds.

Details/Data Set

The proportion of the watershed management area with recent stand replacing disturbance can be calculated through a GIS exercise using the total area of the community watershed and the total area of recent disturbance. The area of recent stand level disturbance is based on the amount of hydrologic recovery that has occurred on harvested or naturally disturbed areas which is a function of the regenerating tree heights on the disturbed area.

Recent Stand Replacing Disturbance is defined as the area of any harvested or naturally disturbed areas within the watershed that contributes to the calculation of the Equivilent Clearcut Area (ECA).

Assessments completed are retained within the harvest plan file for the cutblock being harvested.

Monitoring

The TFL Forester co-ordinates WFP participation on the Haslam/Lang Integrated Watershed Management Plan (IWMP) and ensures the necessary assessments are completed prior to harvesting. The TFL Forester reports on the data in the annual SFM report.

Indicator 3.2.2 Proportion of forest management activities, consistent with prescriptions to protect identified water features.

Element: 3.2 Water quality and quantity *Conserve water resources by maintaining water quality and quantity*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Water quality of streams	Maintain water quality during harvesting and road building operations.	**3.2.2** Proportion of forest management activities, consistent with prescriptions to protect identified water features.	100%	5%

History

This was originally a locally developed indicator consistent with the CSA Z809-02. This indicator has been revised to meet the new core indicator 3.2.2 of CSA Z809-16.

Was originally Indicator 3.2.3: The annual number of non-conformance issues on water quality on streams within the DFA.

The revised Indicator 3.2.2 to meet the Z809-16 standard: Proportion of forest management activities, consistent with prescritpions to protect identified water features.

Justification

The Ministry of Forests, Lands, and Natural Resource Operations (MFLNRO) and Western Forest Products conduct harvest inspections on all harvesting and road building operations to check for water quality issues on streams. The target reflects WFPs commitment to meet and surpass all applicable environmental regulations.

The variance allows for the rare occurrences where an item is identified in an inspection but is not a non-compliance or a contravention resulting in a fine.

Current Status & Interpretation

A summary of inspections and non-conformance issues is summarized in the table below.

Year	MFLNRORD Inspections	WFP Inspections	Non-conformances (#)
2021	0	128	A total of 128 internal WFP inspections were completed in 2021 from Road, Cutblock, Facility, and Post Harvest Assessments. Internal Monitoring Program in September 2021 identified a finding where the stream prescription was not followed on block ST-118. On the same block another finding for cross drain culverts not installed to plan. **2 non-conformances**.
2020	0	92	A total of 92 internal WFP inspections were completed in 2020 from Road, Cutblock, Facility, and Post Harvest Assessments.
2019	4	185	A total of 185 internal WFP inspections were completed in 2019 from Road, Cutblock, Facility, and Post Harvest Assessments. In 2019 there were four alleged non-compliances related to water management resulted from C&E inspections occurring on UL-017, WL-974, ST-289, and at the Tin Hat Junction. None of these alledged non-compliances have been determined and no fines have been issued. On PL-009 Western self reported a non-conformance for a rock slide into Powell Lake. A Compliance and Enforcement Inspection has not been provided to Western.
2018	0	177	A total of 177 internal WFP inspections were completed in 2018 from Road, Cutblock, and Post Harvest Assessments. On WL-948 a self reported non-conformance on a S6 stream (previous C&E Inspection).
2017	3	164	3 alleged non-conformances resulted from C&E inspections. Of these 1 of them was related to water (ST-067). This remains as an alleged non-conformance and no fine has been issued.
2016	2	145	0 – No non-conformances identified related to water. C&E inspection in November 2016 reported alledged non-compliance related to water management on the Freda Main.
2015	3	84	0: – MFLNRO noted one partially plugged culvert.

2014	20	67	0: - Three items were noted in 2014 from inspections requiring maintenance work for water quality – none were determined to be non-compliances. Culvert washed out at PD due to natural stream processes, road washed-out at 1 mile on Spring Lake from natural stream channel change upstream, Goat Main at 14 mile – water pooling on road and needs managed to minimize erosion.
2013	43	88	0: - MFLNRO raised concerns regarding a stream crossing, perched culvert, and a bridge install. These sites were looked at proactively together in the field. Neither was determined to be a non-compliance.
2012	24	82	0: -Goat Main maintenance completed in 2012 and additional work scheduled for 2013 to reduce sedimentation. This includes ditching, culvert replacements, and new road surfacing. - MFLNRO raised some concern in 2012 with debris in ditches during logging. This has been communicated to the logging contractors and all ditches were cleaned at the completion of logging as part of the regular process.
2011	17	81	0
2010	39	89	1: MFLNROD allege herbicide used in PFZ. Issue resolved and measures in place to prevent a reoccurrence.
2009	47	101	1: WFP Identified sedimentation into an S6 stream.
2008	205	187	0
2007	163	181	2: MFLNROD identified a 0.2ha riparian infringement. No stream impact. WFP and MFLNROD identified a boulder infringement into a fish stream from road construction. Boulder removed and no material impact on water quality.
2006	0*	1*	0
2005	1	3	1: MFLNROD investigation and determination in LL-162.

Performance

2021: SFO met the variance in 2021. There were 34 blocks harvested and 23 road construction projects in 2021. For 2021 is that there were 2 non-conformances resulting in approximately 3.5% of the total of all forest management activities inconsistent with prescriptions identified in the Plans.

2020: SFO met the target for 2020. No determined non-conformances regarding water quality and quantity were identified in 2020.

2019: SFO did not meet this indicator in 2019. Although there were 4 Alledged Non-Compliances from Compliance & Enforcement Inspections and 1 self reported non-conformance related to water management, none of these inspections or notices resulted in a determination and no fines were issued.

There were 15 blocks harvested and 18 road contruction projects in 2019. The result for 2019 is that approximately 12% of the total of all forest management activities were inconsistent with prescriptions identified in the Plans.

2018: SFO met the variance for 2018. 1 block (3.3%) of the 30 blocks harvested in 2018 had a self-reported non-conformance regarding water quality issues.

2017: SFO met the target for 2017. No determined non-conformances regarding water quality issues were identified in 2017.

2016: SFO met the target for 2016. No non-conformances regarding water quality issues were identified in 2016.

2015: SFO met the target for 2015. No non-conformances regarding water quality issues were identified in 2015. One block was harvested in the Jefferd Creek Community watershed and a project was completed with the waterworks society to improve water flows within the watershed.

2014: SFO met the target for 2014. No non-conformances regarding water quality issues were identified in 2014. An additional 3,700 m of capping was completed on Stillwater Main and 300 m on Spring Lake Main in 2014.

2013: SFO met the target for 2013. No non-conformances regarding water quality issues were identified in 2013. Pits developed on Goat Island and Lewis main for future road resurfacing in 2014.

2012: SFO met the target for 2012. No non-conformances regarding water quality issues were identified in 2012. WFP inspections identified that ditching and culvert upgrades would help reduce sedimentation on Goat Main. This work commenced in 2012 and more is scheduled for 2013. A total of 13,000m of Goat Main was resurfaced in 2012.

2011: SFO met the target for 2011. No water quality issues identified in 2011. A total of 2000m of Goat Main was resurfaced in 2011.

2010: SFO met the target for 2010. MFLNROD alleges herbicide was used inside a pesticide free zone in 2010 but no details or fine have been provided. MFLNROD inspection has been ongoing for a year and is still open.

Strategies & Implementation

There are a number of strategies implemented for maintaining water quality during harvesting and road building operations.

- Prior to harvesting, site specific plans are prepared which identify the stream locations and specific management strategies for managing each individual stream.
- The Environmental Management System contains Standard Operating Procedures for harvesting, road building, and hauling which contain detailed strategies for protecting water quality.
- At harvest or road building completion, strategic grass seeding of exposed soils along roads is completed where it will help minimize sedimentation.

Forecasts

An intensive inspection regime is in place on the DFA which continues to demonstrate a high level of conformance with water quality requirements. Based on past experience and the current practices on the DFA this high level of conformance is expected to continue.

Details/Data Set

A record of all inspections is maintained in the CENGEA – Incident Tracking System.

Monitoring

The TFL Forester compiles the data from CENGEA and reports on the data in the annual SFM report.

Indicator 3.2.3 The annual number of EMBC reportable spills

Element: 3.2 Water quality and quantity *Conserve water resources by maintaining water quality and quantity*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Water quality and pollution prevention	Maintain water quality by minimizing pollution from spills.	**3.2.3** The annual number of Emergency Management BC reportable spills.	The annual number of reportable spills on the DFA is zero.	1 spill annually

History

This is a Local Indicator developed in 2000. The indicator statement was changed in 2018 to reflect the change from PEP to EMBC.

Justification

The company is legally required to immediately report to the Provincial Emergency Management BC (EMBC) any hydrocarbon spill to water, or any hydrocarbons in excess of 100 liters to land.

The target reflects the objective of the Stillwater Forest Operation to have no spills within the DFA as outlined in the annual Emergency Preparedness and Response Plan (EPRP). The variance reflects that incidents do occasionally happen despite the best management efforts in place to prevent spills. In the rare event a spills occurs, the EPRP is implemented to minimize the impact of the spill.

Current Status & Interpretation

A summary of spills which have occurred since 2000 is summarized in the table below.

Year	DFA EMBC Reportable Spills (#)	DFA Company Recordable Spills (#)	Comments
2021	0	3	No reportable spills in the DFA.
2020	0	3	No reportable spills in the DFA.
2019	0	3	No reportable spills in the DFA.
2018	1	2	1 reportable spill in the DFA – boom boat sinking at the Dry Land Sort.
2017	1	7	1 reportable spill in the DFA – boom boat sinking at the Dry Land Sort. In 2017 the contractors were encouraged to report all spills below the reportable limits. As a result we saw an increase in the number of recordable spills occurring in the DFA.
2016	1	0	1 reportable spill in DFA – diesel fuel spilled on ST-388.
2015	1	2	1 reportable spill in DFA - hydraulic fluid from a hoechucker. 1 reportable spill outside DFA – hydraulic fluid from a log loader. 2 reportable spills in DFA and both were hydraulic fluid from excavators during road construction.
2014	3	0	3 reportable spills occurred in the DFA a) main hydraulic line failed on a self-loading log truck. b) Sheen noted on Lois Lake and reported to PEP. Cause is unknown but was at campsite. c) Piston failed on boom boat and motor oil blew out of stack.
2013	0	3	1 reportable spill outside DFA – boom boat sank 3 recordable spills inside DFA – stolen fuel truck flipped on side and two logging trucks.
2012	0	2	1 reportable spill outside DFA 1 recordable at Narrows with a processor. 1 recordable on Spring Lake Main with a log truck.
2011	2	-	1 reportable from grade hoe - hydraulic 1 reportable from processor - hydraulic
2010	0	0	No reportable spills in DFA
2009	0	-	1 reportable outside DFA
2008	1	1	1 reportable at Giavanno
2007	0	0	1 fuel, 1 bilge, 2 hydraulic spills outside DFA
2006	0*	1*	1 recordable at Kulbasa
2005	1	3	1 PEP Spill at Block Bay 2 Fuel Spills 1 Hydraulic Oil Spill
2004	0	0	No spills noted
2003	0	2	Diesel fuel – broken pipe on fuel truck to land. Diesel fuel – off loading fuel to water.
2002	1	1	Loader flipped at block bay. Land spill.

			Old spill noted while resurfacing deck at DLS
2001	2	2	Hose at the Dry Land sort 120L's 5 liters of hydraulic oil at Mowat Bay
2000	1	1	Rainbow Lodge

2006: *There were two reportable spills and two recordable spills in 2006 outside of the DFA.

2008: There was one reportable spill at an unnamed stream on Giavanno Main that was reported to PEP. The EPRP was initiated for this spill and response and clean-up was recognized to have been effective and very diligent.

Performance

2021: SFO met the target for 2021.

2020: SFO met the target for 2020.

2019: SFO met the target for 2019.

2018: SFO met the variance for 2018. The target for this indicator is zero reportable spills with a variance of one.

2017: SFO met the variance for 2017. The target for this indicator is zero reportable spills with a variance of one.

2016: SFO met the variance for 2016. The target for this indicator is zero reportable spills with a variance of one. Both reportable and minor spills are focus areas for 2017 with contractor training, re-enforcement of reporting and clean up requirements, as well as follow up on blocks and roads during periodic inspections.

2015: SFO met the variance for 2015. There was one reportable spill in the DFA in 2015.

2014: SFO did not meet the target for 2014**.** There were three reportable spills in the DFA in 2014. The swivel that failed on the self-loading log truck is being replaced with a swivel that has a lower fail potential.

2013: SFO met the target for 2013**.** There were no reportable spills in the DFA in 2013.

2012: SFO met the target for 2012**.** There were no reportable spills in the DFA in 2012.

2011: SFO did not meet the target or variance in 2011 as there were two reportable spills to land

2010: SFO met the target for 2010**.** There were no reportable spills in the DFA in 2010.

Strategies & Implementation

- An Emergency Preparedness and Response Plan (EPRP) is in place through the Environmental Management System (EMS) which includes measures to prevent spills as well as the response procedures to follow to quickly control and minimize the effect of spills.
- The EMS contains Standard Operating Procedures (SOPs) that are also aimed at preventing pollution and spills.

Forecasts

Based on past experience expectations are for reportable spills to be rare however incidents occasionally occur and the EPRP is implemented.

Details/Data Set

A record of all reportable spills is maintained in the CENGEA – Incident Tracking System. The size and type of spill are recorded in the database.

Monitoring

Spills are reported by the road building and harvesting contractors to their supervisor and spills are recorded on the Spill Report Form which is part of the EMS.

The TFL Forester compiles the data from CENGEA and reports on the data in the annual SFM report.

Indicator 4.1.1 Net carbon uptake

Element: 4.1 Carbon uptake & storage *Maintain the processes that take carbon from the atmosphere and store it in forest ecosystems*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The uptake of carbon	The net rate of carbon uptake by the forest is positive over time	**4.1.1** The net carbon uptake	The net annual carbon uptake on the DFA is positive on a five year rolling average.	One year negative not to exceed the positive five year rolling average.

History

This is a core indicator in 2010, and continues under the Z809-16 CSA Standard.

This indicator was updated on September 14, 2011 to include the impact of natural forest fires.

This indicator was updated on November 12, 2014 to clarify the variance.

Justification

The basic premise of a sustainable forest management organization is that it should be at least carbon neutral from the onset. In this context carbon neutrality is a demonstration that harvest levels are sustainable. Forest management should be shown to be a positive contributing activity for global ecological cycles over time.

The variance is meant to help account for fluctuation in yearly cut levels due to market conditions and license obligations under provincial legislation.

Current Status and interpretation

The net carbon uptake of the DFA (expressed in CO_2e tonnes) by year is calculated to be as follows:

	2016 CO_2e (tonnes)	2017 CO_2e (tonnes)	2018 CO_2e (tonnes)	2019 CO_2e (tonnes)	2020 CO_2e (tonnes)	2021 CO_2e (tonnes)	5 Year Rolling Average
Carbon uptake (from growing stock) (TFL 39/1)	391,580	366,503	362,645	377,250	381,609	385,297	374,661
Carbon removed (to short-lived products)	-222,580	-211,739	-214,049	-115,266	-184,279	-204,606	-185,988
Fuel consumed (harvest & transport)	-7933	-6,962	-7,191	-3,803	-6,203	-6,719	-6,176
Debris burned (operational and natural fires)	-1721	-145,559	-89,365	-59,607	-83,642	-84,289	-92,492
NET Carbon Uptake	159,605	2,243	52,039	198,573	107,285	89,684	89,965

Performance

2021: SFO met the target for 2021.

2020: SFO met the target for 2020.

2019: SFO met the target for 2019.

2018: SFO met the target for 2018.

2017: SFO met the target for 2017. The net carbon uptake is low due to the larger than normal amount of back log burning completed in the fall of 2017.

2016: SFO met the target for 2016. The Net Carbon uptake for 2016 is higher than in previous years due to the increase in the carbon update from growing stock.

2015: SFO met the target for 2015

2014: SFO met the target for 2014.

2013: SFO met the target for 2013. The primary difference from 2012 to 2013 is the amount of carbon released from pile burning. A total of 1416 piles were burned in the fall of 2013 and 0.5ha was burned as a result of the PD-heli fire and the WL-913 pile burning escape. The net carbon uptake has therefore decreased accordingly.

2012: SFO met the target for 2012. The decrease in the DFA from 2011 to 2012 has decreased the carbon uptake from available growing by 30,903 CO_2e tonnes. The net carbon uptake has therefore decreased accordingly.

2011: SFO met the target for 2011.

2010: SFO met the target for 2010. The baseline results calculated for the DFA for 2010 indicate that there is ample growing stock on the DFA to fix sufficient amounts of carbon to replace the volume harvested that year.

Strategies & Implementation

The primary strategy for ensuring a consistent net rate of carbon uptake on the DFA over time is:

- Prompt and effective reforestation of harvested areas. This is primarily achieved through a combination of natural regeneration and the planting of seedlings shortly after harvest is completed. Fertilization at the time of planting is also utilized to help initial seedling growth and establishment ahead of competing brush.

In certain circumstances, additional treatments may be required in support of this core strategy to achieve its goal including:

- Site preparation such as pile burning or mechanical debris scattering or removal to ensure a good distribution of the regeneration throughout the harvested area.
- The use of improved seed for planted seedlings that have improved growth performance and/or insect or disease resistance.
- Brushing treatments to relieve young trees from some of that competition.
- Fertilization at the time of planting to help initial seedling growth and establishment ahead of competing brush.
- Forest fire preparedness & response that aim at the prevention of fires and the prompt control and extinguishment of those that occur.
- Modernizing or upgrading of equipment that result in improved fuel efficiencies.

Forecasts

Testing of different harvest levels in the spreadsheet model indicates that the annual net carbon uptake would remain positive for the DFA at the normal AAC level of harvest but could turn negative in a year where substantially more than the AAC is harvested to compensate for a year of undercut.

Details/Data Set

The net carbon uptake on the DFA is simply defined as the difference between the total carbon uptake on the DFA by its growing stock, minus the net carbon removed from the DFA through harvest operations and the total carbon emitted through fuel consumption during forest management operations.

The net volume of carbon removed is a factor of the total volume harvested that accounts for the portion of the harvest that remains sequestered in long-life products such as building lumber and furniture.

Net carbon uptake can be expressed in a simple equation as follows:

Carbon uptake (*from growing stock*)

- Carbon removed (*to short-lived products*)

- Fuel consumed (*harvest & transport*)

- Debris burned (*debris disposal/operational fires*)

- Forest burned (*natural forest fires*)

Net carbon uptake

Carbon uptake is calculated using the current growing stock on the DFA and applying growth estimates to the updated timber inventory. The government growth models TIPSY (Table Interpolation Program for Stand Yields) and VDYP (Variable Density Yield Projection) are used to generate growth estimates depending on stand age and tenure. Growth is distributed by species according to the species percentages recorded for each stand. The annual growth (in m3) is multiplied by the average carbon density estimates (kg/m3) by species to obtain the carbon uptake in tonnes of carbon.

The carbon removed is calculated based on the log volume production for each species. The annual log production (in m3) is multiplied by the average carbon density estimates (kg/m3) by species to obtain the gross carbon removed. This is then multiplied by a factor of 60% to estimate the tonnes of carbon removed to short-lived products. For simplicity, only stem-wood volume is considered in the calculation which is consistent with the results of yield curves.

The known fuel consumption is matched to the operational log production. When contractors independently purchase fuel, their consumption is assigned the average calculated rate (in L/m3) for the remaining of the operation's log production to estimate the total amount of fuel they consumed. The sum total of fuels consumed (in L) is then multiplied by the average carbon density by fuel types (in t/L) to obtain the tonnes of carbon emitted through fuel consumption.

Finally, the carbon emitted through natural forest fires and forest practices such as debris burning or through other operationally caused fires is estimated by multiplying the approximate volume of wood consumed (in m3) by the average carbon density estimates (kg/m3) of all of the entire harvested volume to obtain the carbon uptake in tonnes of carbon.

Monitoring

To monitor and calculate performance on this indicator, a number of parameters must be monitored or maintained for the DFA:

- Growing stock inventory over time (adjusted for age and for annual harvested area)
- The volume harvested annually
- The species profile of the harvested volume
- The age (i.e., old growth vs. 2nd growth) profile of the harvested volume
- Total annual fuel consumption (gasoline, diesel fuel, aircraft fuel)
- Annual area burnt in operationally caused forest fires
- Annual area burnt in natural forest fires
- Annual area burnt in broadcast silviculture fires
- Total number of debris piles burned annually for silviculture or fire abatement reasons and their average size.

The parameters listed above are entered in a spreadsheet built to calculate the carbon values emitted. It includes conversion factors extracted from recognized and credible international research literature. These factors include:

- Carbon density (CO_2e) of wood by species in tonnes/m^3.
- Carbon density of various fuel types in tonnes/L.
- Proportion (%) of wood harvested that is stored in short-lived products.

Indicator 4.1.2 Reforestation success

Element: 4.1 Carbon Uptake and Storage *Conserve ecosystem resilience by maintaining the both ecosystem processes and ecosystem conditions*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The timeliness of regeneration on the DFA.	Harvest areas are regenerated promptly.	**4.1.2** Reforestation success.	The equivalent harvest years of area awaiting reforestation (AAR) annually is < 2 years.	</= 2.5 years annually

Link to repeat indicator 2.1.1

Indicator 4.2.1 Additions & deletions to the forest area

Element: 4.2 Forest Land Conversion *Conserve forest ecosystem productivity and productive capacity by maintaining ecosystem conditions that are capable of supporting naturally occurring species. Reforest promptly and use tree species ecologically suited to the site.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The productive capacity of the DFA.	Maintain the productive capacity of the DFA to the extent practicable.	**4.2.1** Additions and deletions to the forest area.	1) The % of productive forest deleted due to permanent access structures is < 7% of the DFA. 2) Report third party applications with the potential to impact the available DFA landbase or deletions to the DFA. 3) Report any additions to the DFA.	1) </= 8% 2) None 3) None

Link to repeat indicator 2.1.3

Indicator 5.1.1 Documentation of the diversity of timber and non-timber resources, including products and services produced in the DFA

Element: 5.1 Timber & non-timber benefits *Manage the forest sustainably to produce an acceptable and feasible mix of timber and non-timber benefits. Evaluate timber and non-timber forest products and forest-based services.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
An economically sustainable DFA.	A profitable DFA producing a range of forest based benefits, products, and services.	**5.1.1** Documentation of the diversity of timber and non-timber resources, including products and services produced in the DFA.	Target 1 - Achieve a positive company **EBITDA** while providing for a range of other timber and non-timber benefits, products, and services from the DFA. Target 2 – Report the salaries/benefits and contractor payments by WFP in the local community.	1) 1 year negative EBITDA 2) None

Target 1: Achieve a positive company EBITDA while providing for a range of other timber and non-timber benefits, products, and services from the DFA.

History

New Core Indicator in 2010, and revised the indicator statement in 2018 to align with the Z809-16 CSA Standard.

Justification

The forest provides a wide range of benefits, products and services to society at large. An important benefit and the foundation for local community services and economic activity are for the primary business enterprise operating on the DFA to be financially sustainable over time. The companies' EBITDA (earnings before interest, tax, depreciation, and amortization) is a common general measure of the business' financial health. The target is to show a positive company EBITDA year after year and the variance is set at 1 year because any extended period of negative results would bring in question the sustainability of the business as currently structured and indicate that change is required.

While producing a positive EBITDA a range of other timber and non-timber benefits, products, and services can be produced from the DFA. The exact amount and nature of these benefits depend on the general character of the DFA however, the broad types of timber and non-timber benefits from the forest include:

- sustainable harvest of timber and non-timber resources (e.g., mushroom harvesting, salal harvesting);
- outdoor activities and recreation opportunities (e.g., hiking, boating, camping)
- hunting, fishing, and trapping activities;
- opportunities for ecotourism (e.g., bird-watching, wildlife viewing);

- cultural and heritage resources; and

In BC, the government directly manages and controls all-natural resources on Crown land. As a forest licensee operating on Crown land, Western can only indirectly affect most resources but cannot administer them. For example, while Western's harvesting activities may have an effect on wildlife or water quality, Western cannot issue hunting licenses or water licenses as this is the function of Government. Nonetheless, Western endeavors to manage the DFA in a way that that facilitates the use of other activities and resources.

In this context, the parameters of known forest benefits that Western can report on from the DFA to achieve the target of providing for other timber and non-timber benefits, products, and services from the DFA are as follows:

- Timber quantity produced from the DFA (volume): This is the core of Western's business and the primary direct product extracted from the forest. Refer to indicator 2.2.2 for details.
- Net road access created (km): The provision of road access is the primary way in which use of the forest can occur for recreation, sporting, tourism, cultural, and harvesting of non-timber products. The large inventory of roads throughout the DFA is the asset that allows the use and enjoyment of most forest products and benefits. Western contributes to the maintenance and growth of this asset through its road construction and maintenance programs. On an on-going basis, roads are constructed or reconstructed to provide access to timber. As well, roads are occasionally decommissioned to remove an environmental risk and or rock ballast is removed for recycling purposes.
- Recreation sites managed for (%): Western manages for recreation facilities when harvesting and road building activities occur in the vicinity of the facility. When harvesting and road building plans are developed measures are incorporated to manage for the recreation facility.
- Timber, special forest products, and firewood availability (number): Western makes logs harvested on the DFA available for use locally. Free firewood permits are also made available to enable homeowners to cut their annual supply of firewood for home heating. Special forest products are also produced by local contractors. Products produced include, cedar blocks, cedar tops, and bio-fuels. The amount of wood sold locally is influenced by market conditions, demand, and the requirements of Western's own processing facilities. The objective is to have up to 14,000 m^3 of logs available for local purchase annually at market price.
- Forest research: Western directly and indirectly supports a variety of research projects on the DFA. These research projects cover areas such as implementation and monitoring of new and alternative management practices through to seedling trials.

Current Status & Interpretation

The companies' EBITDA is summarized in the following table by year starting in 2008.

Year	EBITDA ($ mm)	Comments
2021	302.1	2 year positive
2020	116.8	1 year positive
2019	(1.5)	Ist year negative
2018	143.5	9 year positive
2017	152.6	8 year positive
2016	148.2	7 year positive
2015	117.1	6 year positive
2014	108.5	5 year positive
2013	128.8	4 year positive
2012	50.6	3 year positive
2011	61.8	2 year positive
2010	47.7	1 year positive
2009	(34.8)	3rd year negative
2008	(85.6)	2nd year negative

A summary of other known timber and non-timber benefits, products, and services from the DFA is as follows:

Type	Unit of Measure	2016 Results	2017 Results	2018 Results	2019 Results	2020 Results	2021 Results
Timber quantity	m3	558,979 m^3	483,211 m^3	489,979 m^3	265,893 m^3	346,135 m^3	419,655 m^3
Net road access increase	km	1604 km total 44km increase	1673 km total 38km increase	1726 km total 40 km increase	1750 km total 24 km increase	1783 km total 33 km increase	1816 km total 33 km increase
Local log sales to small mills	m^3	515 m^3	440 m^3	2108 m^3	6894 m^3	1882 m^3	1706 m^3
Minor Products	m^3	390 m^3	1163 m^3	1400 m^3	231 m^3	1,043 m^3	855 m^3
Firewood	m^3	m^3	3,499 m^3	8,554 m^3	3,046 m^3	3,694 m^3	5,112 m^3
Bio fuels	m^3	1941 m^3	16,798 m^3	14,476 m^3	3,654 m^3	18,991 m^3	8,570 m^3
Forest Research	#	11 research projects ongoing	12 research projects ongoing	12 research projects ongoing	12 research projects ongoing	12 research projects ongoing	12 research projects ongoing

Recreation Sites Managed for in Harvest Plans

Year	Recreation Sites Managed in Harvest Plans
2010	• LL-057: SMZ along SCT, windfirming completed, trail re-established after harvest. • ST-244: SCT located adjacent to block boundary • ST-245: Retention patch located on trail, PRPAWS completed a trail reroute, trail re-established after harvest. • ST-246: Boundary modified and PRPAWS completed a trail reroute. • ST-334: Screening retained between Lewis lake recreation site and the block.

2011	• UL-810: SMZ along SCT, windfirming completed, trail rerouted by PRPAWS and retention patch established on rerouted trail.
2012	• FH-040: SMZ along SCT, windfirming completed • ST-038: SCT located along southern block boundary. Harvest scheduling designed to facilitate green-up in ST-038 prior to commencing harvest of another adjacent block along the SCT. • ST-232: SCT rerouted into an adjacent riparian area by PRPAWS. Extensive windfirming completed due to high hazard stand type. SCT to the north proactively identified to PRPAWS that it is located through the middle of a future block.
2013	• LL-017: Parking area for Lois bluffs enlarged. • ST-255: E-Branch access. • LL-026: SCT located along southern edge of block. • LL-029: SCT located along the western edge of block with site specific windfiming. • ST-038: Access to Tin Hat Mountain improved by rebuilding the old Tin Hat Mountain Road. SCT cleaned after harvesting. • UL-890: SCT located at northern edge of block with windfirming. ST-296: Canoe route campsite and portage trail managed for. ST-235: SCT along eastern edge of block. PRPAWS informed of future conflict. Old Hastings road cleaned for ATV use. • TM-186: Tony Lake rec site managed for and windfirmed.
2014	• ST-070: SCT located along eastern edge of block in a retention patch. Manual windfirming completed for aesthetics due to high visibility of the linear strip from Dixon Road. • ST-327: SCT routed within OGMA and riparian area of Anderson Creek. Wildlife Tree Retention Area (WTRA) established anchored on trail. Windfiming completed along block edge. Original trail through block on old grade kept clean and open while new route was being constructed. • ST-329: Wildlife Tree Retention Area (WTRA) established on SCT and windfirmed. • UL-827: Access to Tin Hat Mountain improved with a new road. Transitions constructed at crossings of the old road for continued hiker and ATV access and old road cleaned with improved water management. • UL-828: Parking area constructed for improved access to Tin Hat Mountain. • UL-817: SCT routed within OGMA along Lewis Lake. Windfirming completed along block edge. Original trail through block which was partially on an old grade kept clean and open while new route was being constructed.
2015	• ST-820: SCT temporarily rerouted to west of the cutblock. Trail inside cutblock improved to maintain an even elevation. WTRA located on a portion of the trail with windfirming completed and individual old-growth Cw retained to provide a future multi-storied stand. • FH-033: Trail is located to the west of the cutblock and windfirming completed along the cutblock edge. • LL-038: A number of measures were implemented to manage for the SCT in this block including rerouting the trail, targeting retention and windfirming some of the cutblock edges.
2016	• FH-044: re-routed the SCT while constructing roads. Trail inside block was moved to coincide with the special management zone. Block is scheduled for harvest in the fall of 2017. • ST-333: Block conincides with the SCT near Spring Lake. Walked the portion of the trail that is outside the block boundary. Discussed options with PRPAWS during the field review. Road construction planned in spring of 2017. • ST-249: re-routed the SCT while constructing roads. Trail inside block was moved to coincide with the special management zone and relocated outside the block in OGMA. Block is scheduled for harvest in the spring of 2017.

2017	• Investment of approximately $30,000 in upgrades to the Powell Forest Canoe Route. Upgrades include new boardwalks and canoe rests as well as dock maintenance. • FH-044: re-routed the SCT while harvesting the block. Trail inside block was moved to coincide with the special management zone. Foot bridge built by WFP so that hikers can safely walk across the ditchline. The new trail location was brushed out by WFP crews prior to PRPAWS constructing it. • ST-249: re-routed the SCT while harvesting the block. Trail inside block was moved to coincide with the special management zone and relocated outside the block in OGMA. Post harvest the special management zone was windfirmed and the trail was cleaned of tops and debris. The new trail location was brushed out by WFP crews prior to PRPAWS constructing it. • ST-288: re-routed the SCT while completing road construction. Harvesting is planned for early in 2018. • ST-333: Road construction completed in spring of 2017. The trail was monitored for hiking traffic throughout the activity. Harvesting is planned for 2019.
2018	• ST-288: re-routed the SCT while completing road construction. Harvesting was completed in early 2018. • ST-341, ST-344, and ST-350: all three of these blocks are located in the vicinity of the Alaska pine road. The access road into these blocks was construced early in 2018 and harvesting was finished in the fall of 2018. During the road construction and harvesting the SCT was monitored for hiking traffic, caution signs were posted, and trucks used caution when driving adjacent to the trail.
2019	• Although the Sunshine Coast Trail did not directly coincide with ST-289, the road construction and harvesting plans included provisions for ensuring safety for hiking along the trail corridor. • Although the Sunshine Coast Trail did not directly coincide with ST-077, the road construction and harvesting plans included provisions for ensuring safety for hiking along the trail corridor. • For road construction on UL-834, UL-862, UL-863, and UL-864, the plans included provisions for ensuring the safety of hiking along the trail corridior coming from Tin Hat Mountain.
2020	• ST-333: Harvesting completed in summer of 2020. The trail was monitored for hiking traffic throughout the activity. • ST-248: Road Construction completed in the fall of 2020. The trail was re-routed to avoid the block during blasting activities. • UL-834 to UL-864: For harvesting on UL-834, UL-862, UL-863, and UL-864, the plans included provisions for ensuring the safety of hiking along the trail corridior coming from Tin Hat Mountain.
2021	• see Indicator 5.2.5

Performance

2021: SFO met this target in 2021.

2020: SFO met this target in 2020

2019: SFO met the variance for the EBITDA target, and met the target for the salaries and contractor payments for 2019. WFP lost 1.5 Million in 2019 due to the impacts from the prolonged USW strike.

Firewood cutting should also be quantified like biofuels and minor products. The table below shows an estimate for the volume of firewood cut since 2017. A cord of firewood equals 3.6 m3. What this doesn't consider is illegal firewood cutting for sale.

Year	# of permits issued	Maximum cords	Total Cords	Volume (m3)
2017	162	6 per permit	972	3,499
2018	396	6 per permit	2,376	8,554
2019	141	6 per permit	846	3,046

2018: SFO met the target for 2018.

2017: SFO met the target for 2017. In 2017 a new Cedar research trial was established on ST-079 located up A-Branch.

2016: SFO met the target for 2016.

2015: SFO met the target for 2015.

2014: SFO met the target for 2014.

2013: SFO met the target for 2013. The companies' EBITDA was positive in 2013 for the fourth consecutive year. A range of other known timber and non-timber benefits, products, and services were also produced from the DFA in 2013 as summarized in the table above. Consecutive years of profitability have enabled WFP to announce a $200 million dollar investment plan. CAG field trip to the Saltair Sawmill to see the $38 million dollar upgrade is planned for February 2014.

2012: SFO met the target for 2012. The companies' EBITDA was positive in 2012 for the third consecutive year. A range of other known timber and non-timber benefits, products, and services were also produced from the DFA in 2012 as summarized in the table above.

2011: SFO met the target for 2011. The companies' EBITDA was positive in 2011 for the second consecutive year. A range of other known timber and non-timber benefits, products, and services were also produced from the DFA in 2011 as summarized in the table above.

2010: SFO met the target for 2010. The companies' EBITDA was positive in 2010 after three years of negative performance. Over the past few years, Western has undergone a number of re-organizations and changes in structure and management strategy in an effort to improve its financial health. Company EBITDA had shown some improvement and has returned to positive in 2010. A range of other known timber and non-timber benefits, products, and services were also produced from the DFA in 2010 as summarized in the table above.

Strategies & Implementation

- To address the string of years with negative EBITDA, a series of corporate restructuring and reorganization was conducted. A senior team was put in place and new business directions were put in place. For Timberlands, a new focus was placed on harvesting areas with a positive economic margin.
- Western's strategy with regards to its harvest level is to harvest the full extent of its annual allowable cut. In adverse market conditions, production levels have been significantly reduced below the AAC and focus has been on harvesting areas with a positive margin.

- Roads are an asset and with new roads constructed each year the level of access will continue to improve. Deactivation is only completed to the level necessary when required to manage for environmental risks.
- Primarily, recreation sites are maintained by Western through service arrangements with the Ministry of Tourism Culture and Arts. Western provides the oversight and management for the Powell Forest Canoe Route and some of the other recreation sites on the DFA. In support of public use, established recreation sites and road networks are indicated on WFP visitor guides of the DFA, which are sold for five dollars by local retailers.
- Western makes fiber available locally through local log sales, firewood cutting, special forest products, and bio-fuels.
- Forest research is supported by Western through a variety of means. Western conducts some research directly and through government funding as well as provides support to MFLNRO researchers working on the DFA.

Forecasts

EBITDA is monitored in quarterly company financial reports and may be forecasted only in the short term based on the financial and economic outlook of the company and the economy.

Based on past experience and the current management regime on the DFA it is expected that a range of other benefits, products, and services will continue to be produced from the DFA into the future.

Details/Data set

- Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA) is reported regularly for the whole company in its various public financial reports. The EBITDA reported in annual reports were as follows:

	2006	2007	2008	2009
EBITDA (in mm$)	$138.2	($13.8)	($42.4)	($34.8)

- Harvest volumes are reported annually in “Official MFLNROD Scale Report and SFO Production”.
- Data on the active road network (maintained and de-activated roads) is maintained by being added at a 1:20,000 scale on the SFO geographic information system (GIS).

  The GIS Specialist compiles the data from CENGEA and reports on the indicator performance in the annual SFM Report.
- The planning department is responsible for producing harvest plans. Harvest plans include relevant information pertaining to harvesting of the cut block. It also includes information on recreation features such as trails and recreation sites. Harvest Plans are kept in a working file until the block is harvested, and then the Harvest Plan is archived.
- Sales of logs to local small businesses are tracked through the scaling system. Local sales are only to small local mills and do not include sales to Goat Lake Forest Products.
- Corporate office maintains the up to date documentation of Western Forest Products research activities.

Monitoring

- EBITDA is value tracked through the company annual reports. It is an accounting measure created for broad performance evaluation and reporting purposes.
- The tracking of the status of the Cut Control levels is a primary responsibility of the Manager, Inventory & Analysis. Operations enter the key production information in CENGEA and LIMS.
- Operations are responsible to track road production information (construction and rehabilitation) on a monthly basis.
- The development of harvesting and road construction plans and filing of documentation is the responsibility of the Planning department.
- Local log sales and requests are completed and tracked by the log traders. Firewood permits and special forest products are managed by the planning department.
- The Strategic Planning Biologist is responsible for the overall research program and reporting annually on this indicator.

Target 2: Report the annual salaries/benefits and contractor payments by WFP in the local community.

History

New Core Indicator in 2010, and revised the indicator statement in 2018 to align with the Z809-16 CSA Standard.

Target 2 was added on March 12, 2014 to report on the annual salaries/benefits and contractor payments by WFP in the local community.

Justification

The forest industry continues to be a key foundation for the local economy. A significant amount of money is spent into the economy through salaries/benefits and contractor payments in support of managing the DFA. This money in the local economy then provides for direct, indirect, and induced employment and the diversity of amenities available to all residents.

Current Status & Interpretation

The total value of goods and services purchased is summarized since 2010 in the following table.

Year	Total value of salaries/benefits and contractor payments ($mm)
2021	23.9
2020	23.8
2019	22.2
2018	28.0
2017	31.4
2016	29.7
2015	26.5
2014	28.2
2013	28.0
2012	23.5
2011	22.0
2010	18.9

Performance

2021: The total value of salaries/benefits and local contractor payments in 2021 is approximately $23.9 Million.

2020: Stillwater contractors only worked for 9 months in 2020. The total value of salaries/benefits and contractor payments in 2020 is $23,782,736

2019: Stillwater contractors only worked the first 6 months of 2019. For this reason, the total volume of salaries/benefits and contractor payments was less than in recent years.

2018: The total value of salaries/benefits and contractor payments in 2018 is $27,984,729

2017: The total value of salaries/benefits and contractor payments in 2017 is $31,365,564.

2016: The total value of salaries/benefits and contractor payments in 2016 is $29,665,087.

2015: The total value of salaries/benefits and contractor payments in 2015 is $26,548,560.

2014: The total value of salaries/benefits and contractor payments in 2014 is $28,213,133.

2013: The total value of salaries/benefits and contractor payments in 2013 is $27,988,637.

Strategies & Implementation

Management of the DFA requires trained and skilled people with a range of forest management and harvesting expertise. The hiring of these skills annually contributes a significant amount of money into the local economy.

Forecasts

The level of expenditures depends on many factors that cannot be predicted reliably and can change rapidly. This includes the condition of global markets and the supply and demand cycle for timber products. No variance is proposed as this is a reporting target.

Details/Data set

The source of the information is un-audited data from the JDE financial system. The data includes the salaries/benefits and contractor payments made to manage the DFA.

Monitoring

The information for this indicator is processed and tracked through the JDE financial system.

Indicator 5.1.2 Evidence of open and respectful communications with forest dependent businesses, forest users and local communities to integrate non-timber resources into forest management planning. When significant disagreement occurs, efforts towards conflict resolution are documented.

Element: 5.1 Timber and non-timber benefits *Manage forest sustainability to produce a mix of timber and non-timber benefits. Support diversity of timber and non-timber forest products and forest-based services.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Timber and non-timber Benefits in Management Planning	Positive Community Benefits	**5.1.2** Evidence of open and respectful communications with forest dependent businesses, forest users and local communities to integrate non-timber resources into forest management planning. When significant disagreement occurs, efforts towards conflict resolution are documented.	All formal written communications with forest dependent businesses, forest users and local communities, related to integrating non-timber forest uses into forest management planning are open, respectful, and recorded and reported out annually and, where disagreement occurs, all efforts of conflict resolution are documented.	None

History

This is a new Core Indicator under the Z809-16 CSA Standard.

February 9, 2022 CAG Meeting: The Indicator Statement has been revised to reflect formal written communications rather than all types of communications. This will allow for a more reliable and auditable reporting out of information to satisfy this indicator. The reporting out table has been revised to reflect this new Indicator Statement.

Justification

Open and respectful communications with the general public, stakeholders, forest dependant businesses, Branches of Government, and local communities is essential in maintaining WFP's Social Licence to Operate. **Social Licence to Operate (SLO)** has been defined in 2011 by Robert Boutilier and Ian Thomas for the BC Mining Industry as…***"the community's perceptions of the acceptability of a company and its local operations"***

In order to maintain SLO we must key in a number of factors;

- Understanding the community, we operate in is.
- Being open and respectful in all communications
- Building a relationship with the Community.
- Avoiding delays and following through.
- Respecting the views of others.
- Being patient and act professionally.
- Being transparent in all communications.

- Always look for opportunities.

Western's interactions with the community can either result in a positive or negative impact to our Social Licence to Operate.

For the purpose of this indicator Western considers the following groups as the community:

- Community Advisory Group (CAG)
- Local Forest Dependent Businesses
- Other Forest Licensees
- PRPAWS
- Outdoor Recreational User Group
- Eldred Climbing Community
- Knuckleheads Society
- Powell River ATV club
- Powell River Cycling Association
- Various Lake Cabin Owners
- General Hiking Community
- Local Municipal Government
- Powell River Regional District
- Environmental Organizations
- Water Licence Holders
- General Public

Current Status & Interpretation

The table below summarizes the current status of this indicator.

Year	Written Communications	Disagreement Occurred	Attempts to resolve documented
2021	FLNRO 2021 FSP Cultural Heritage Resource Letter	No	No
	FLNRO Salvage Alternate Scale Application	No	No
	TR0212T007 Annual Harvest Referral Letter	No	No
	TR0212T008 Annual Harvest Referral Letter	No	No
	Janet May Old Growth Letter	Yes	Yes

Performance

2021: The indicator was met for 2021.

2020: 2 targets were met, and 1 variance was met for 2020. In 2020 the total number of communications were separated into 26 logical communication threads for individuals and stakeholder groups. This allows for reporting by topic rather than by the number of communications. In 2020 there were 2 communication threads where significant disagreements became apparent. Attempts to resolve the significant disagreement were documented in both cases.

2019: 2 targets were met, and 1 variance was met for 2019. In 2019 the total number of communications were separated into logical communication threads (31) for individual stakeholder groups (25). This allows for reporting by topic rather than by the number of communications, although the number of communications is also documented for reference. In 2019 there were 2 communication threads where significant disagreements became apparent. Attempts to resolve the significant disagreement were documented in both cases.

2018: The indicator was met for 2018. In 2018 there were 32 meetings held, 82 letters written, 995 emials with stakeholders and First Nations, 4 field trips, and 20 media-internet postings.

2017: The indicator was met for 2017.

2016: The indicator was met for 2016.

Strategies & Implementation

Western will document and detail the number of communications annually including outcomes. Communications can be in the form of meetings, telephone conversations, email, letter, etc. This indicator will only focus on 2-way communications. Western will use Microsoft Outlook to document all communications third parties and this will be documented in the Management Reviews completed annually.

Western will also document whether or not there was significant disagreement in any of the communications. For the purpose of this Indicator, significant means, "***a stalemate is reached in two-way communication based on differing opinions on a particular topic of discussion***". Where there is a significant disagreement, Western will document any attempts to resolve the conflict or issue.

Forecasts

As this is a new indicator for 2017, targets and variances will be monitored and changed if required based on performance.

Details/Data Set

The TFL Forester is responsible for documenting all communications with the community.

Monitoring

The TFL Forester reports on indicator performance in the annual SFM report

Indicator 5.2.1 Level of participation and support in initiatives that contribute to community sustainability

Element: 5.2 Communities & Sustainability *Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
A vibrant community	To contribute towards a vibrant community.	**5.2.1** Level of participation and support in initiatives that contribute to community sustainability	Level of investment in initiatives that contribute to community sustainability and the local economy is greater than ten projects annually.	None

History

New Core Indicator in 2010, and then revised to meet the indicator statement in the Z809-16 CSA Standard.

Justification

While the forest industry will continue to be key in the economic sustainability of the local community, investments can be made in initiatives that further contribute to community sustainability. These mainly center on the maintenance of recreation sites, supporting recreation projects, installing recreation signage, supplying recreation maps, supporting forest research projects, completing major road access projects such as bridge replacements, safety initiatives etc. The target is to achieve at least ten initiatives annually.

Current Status & Interpretation

A list of projects completed by year which directly contributed to community sustainability is as follows:

Year	Category	Project	Donation $	In-kind $
2021	Community Support Projects	Food Bank	$5,000	$0
		Salmon Society	$1,000	
		Powell Forest Canoe Route – Dodd Bridge	$39,007	$2,500
		PR Curling Club	$175	$0
		Powell River Kings (Promotion and player posters)	$1,425	$350
		Operational and Safety Updates for local public members	$0	$7,000
		Christmas Trees for Junior Forest Wardens	$0	$750
		213 Firewood Permits Issued with estimated value based on $150/cord.	$0	$31,950
		Christmas Trees for Junior Forest Wardens	$0	$750
		Dry Grad	$0	$350
		Total Contribution $	**$46,607.00**	**$43,650.00**
2020	Community Support Projects	Christmas Cheer	$5,000	$0
		Food Bank	$5,000	$0
		SD47 Welcome Pole	$1,200	$0
		PR General Hospital - logs	$1,000	$0
		PR Curling Club - signs	$175	$0
		Powell River Kings (Promotion and player posters)	$1,425	$350
		Powell Forest Canoe Route – Dodd Bridge	$13,792	$11,800
		Operational and Safety Updates for local public members	$0	$7,000
		Christmas Trees for Junior Forest Wardens	$0	$750
		161 Firewood Permits Issued with estimated value based on $150/cord.	$0	$24,150
		Total Contribution $	**$27,592**	**$44,050**
2019	Community Support Projects	Powell River Logger Sports	$3,000	$0
		Powell River Logger Sports (carving logs)	$4,659	$0
		Powell River Kings (Promotion and player posters)	$1,425	$350
		Kathaumixu (logger sports carving)	$0	$5,000

		Powell Forest Canoe Route – Dodd Bridge	$8,000	$5,500
		Tla'amin Re-discovery Pole	$922	$0
		Tla'amin Canoe Journey	$1,000	$0
		Operational and Safety Updates for local public members	$0	$7,000
		Christmas Trees for Junior Forest Wardens	$0	$750
		Henderson Elementary Welcome Pole	$613	$0
		Hendersen Elementary field trip January 15th.	$0	$750
		Westview Elementary presentation January 24th.	$0	$500
		Junior forest Wardens presentation January 30th.	$0	$500
		PRPAWS – SCT field meetings and trail relocations.	$0	$1,500
		Reload Road Dust Control	$0	$0
		Total Contribution $	**$19,619.00**	**$21,850.00**
2018	Community Support Projects	• Continued to support the Powell River Salmon Society. • Continued support of the Powell River Forestry Museum. • Continued support of the Powell River Logger Sports Association. • Continued support of the Powell Forest Canoe Route. • Continued support of the Powell River Kings United Way Dream Gala • Continued support of Kathaumixw • Contributed in-kind and financial support to the Tla'amin Reconciliation Canoe Project • Contributed in-kind support and firewood to the Dry Grad Brooks Secondary School • Continued support of the Pacific Salmon Foundation • The OIM was produced 12 times and available at www.westernforest.com • Provided Christmas tree permits for Junior Forest Wardens fundraising. • Road updates provided through www.wfproadinfo.com, Twitter and Facebook in order to assist with safe recreation use of the working forest. • Worked with PRPAWS to manage for the SCT where influenced by harvesting. • Supported Powell River Curling Club.		
2017	Safety	Stillwater staff and contractors had a combined Medical Incident Rate of 4.39.		
	Local Arts, Culture, and Education	Supported the following Associations or Activities: • Powell River Logger Sports Association. • Powell River Kings United Way Dream Gala		

		• Kathaumixw • Tla'amin Reconciliation Canoe Project • Dry Grad Brooks Secondary School • Pacific Salmon Foundation
	Recreation	• Road updates provided through www.wfproadinfo.com, Twitter and Facebook in order to assist with safe recreation use of the working forest. • Management and maintenance for the Canoe Route and other recreations sites continues. Invested $30,000 in upgrades to the portages. • Worked closely with PRPAWS to manage for the SCT where influenced by harvesting. • Continued to develop a working relationship with the Powell River Eldred Valley Rock Climbing Community. • Supported Powell River Curling Club. • Supported Powell River Thunder Rep Soccer.
	Road Access	Continued with replacement of bridge crossing infrastructure. Completed some forward planning in the TFL looking for opportunities to upgrade access to new harvest areas as well as for recreationalists.
	Powell River Salmon Society	Continued to support the Powell River Salmon Society.
	Local history	Continued support of the Powell River Forestry Museum.
	Public Involvement	• The OIM was produced 12 times and available at www.westernforest.com. • CSA certification maintained in 2017 and continued to support the local CAG. • A local forestry tour of the DFA was completed in the fall of 2017. • Provided Christmas tree permits for Junior Forest Wardens fundraising.
	Forest Research	Research projects ongoing improving forest management understanding.
	Young Worker Recruitment	Hired 1 summer student who will be returning to Stillwater in 2018.
2016	Safety	WFP in 2016 had a Medical Incident Rate of 0.99. See indicator 6.3.2 for specific details.
	Local Arts, Culture, and Education	Supported the Powell River Curling Club.
		Supported the Powell River Logger Sports Association.
		Supported the Powell River Salmon Society.
		Supported the Powell River Academy of Music.
		Supported the Gillard Pass Fisheries Association.
		Supported the Pacific Salmon Foundation.
		Supported Marine Traders.
		Supported the Powell River Forestry Museum Society.
	Recreation	Management and maintenance for the Canoe Route and other recreations sites continues. 3 new campsites were created. Grass seeding and tree planting completed at Nanton Lake Recreation Site.
		Worked closely with PRPAWS to manage for the SCT where influenced by harvesting. Significant efforts made to find site specific solutions that optimize all aspects of forest management.

		Road updates provided through www.wfproadinfo.com, Twitter and Facebook in order to assist with safe recreation use of the working forest.
		PR Living Magazine – recreation opportunities in the DFA promoted through advertising.
		Developed a working relationship with the Powell River Eldred Valley Rock Climbing Community. Contributed in-kind GIS assistance where needed in the mapping of their trail networks and climbing locations. Donated culverts for upgrades to access within the recreation site located along Goat Mainline.
	Road Access	Continued with replacement of bridge crossing infrastructure.
		Completed some forward planning in the Knuckleheads recreation area looking for opportunities to upgrade access to new harvest areas as well as for recreationalists.
	Powell River Salmon Society	Supported the Powell River Salmon Society.
	Local history	Continued support of the Powell River Forestry Museum.
	Public Involvement	The OIM was produced 12 times and available at www.westernforest.com. This provides for public input into plans at the development stage.
		CSA certification maintained in 2016 and continued to support the local CAG.
		A local forestry tour of the DFA was scheduled for 2016, however, due to weather conditions was cancelled.
		Provided Christmas tree permits for Junior Forest Wardens fundraising.
		Placed information pieces in the PR Living magazine to improve public awareness of forestry in Powell River.
	Forest Research	Research projects ongoing improving forest management understanding.
		Hired two summer students (Cody and Geoff). These 2 remain at Stillwater under agreement till the end of 2017 as assistant planners.
	Young Worker Recruitment	Hired 2 summer students.
2015	Safety	WFP in 2015 had a BC industry leading Medical Incident Rate of 1.59. See indicator 6.3.2 for specific details.
	Local Arts, Culture, and Education	Supported Powell River Kings Junior “A” hockey.
		Supported the Powell River Curling Club.
		Supported the Powell River Yacht Club.
		Supported Powell River Salmon Society gala dinner.
		Supported Powell River Seafair
		Supported Tourism Powell River with donation for construction of a backcountry road sign.
		Supported the Banff Mountain Film Festival at Brooks School.
		Donated log for a cultural totem pole with the Tla’Amin First Nation and Kathaumixw.
		Provided sawlogs to the PR Forestry Heritage Society for the construction of a sled to transport a steam donkey.
	Recreation	Management and maintenance for the Canoe Route and other recreations sites continues.
		Worked closely with PRPAWS to manage for the SCT where influenced by harvesting. Significant efforts made to find site specific solutions that optimize all aspects of forest management.

		Provided Tourism Powell River with financial assistance so they could produce a large backcountry sign to be posted at Lang Bay Store.
		Road updates provided through www.wfproadinfo.com, Twitter and Facebook in order to assist with safe recreation use of the working forest.
		PR Living Magazine – recreation opportunities in the DFA promoted through advertising.
		Khartoum Lake Recreation Site: Large structure replaced in conjuction with Rec Sites and Trails BC in order to maintain access to the Khartoum Lake Recreation Site.
	Road access	Continued with replacement of bridge crossing infrastructure.
	Powell River Salmon Society	Provided supplies to support upgrade projects.
	Local history	Continued support of the Powell River Forestry Museum.
	Public Involvement	The OIM was produced 12 times and available at www.westernforest.com. This provides for public input into plans at the development stage.
		CSA certification maintained in 2015 and continued to support the local CAG.
		A local forestry tour of the DFA was scheduled for 2015, however, due to weather conditions was cancelled. Tour will be rescheduled to take place in March or April 2016.
		Provided Christmas tree permits for Junior Forest Wardens fundraising.
		Placed information pieces in the PR Living magazine to improve public awareness of forestry in Powell River.
	Forest Research	Research projects ongoing improving forest management understanding.
		Hired two summer students and participated in the career conference at UBC.
	Young Worker Recruitment	Supported PRESS with program funding.
		Provided funding towards the young forestry worker program sponsored by MFLNRO. Nancy worked with 4 MFLNRO summer students and showed them how to do survival surveys. They completed surveys on 4 cutblocks.

Year	Project	Comments
2014	Safety	WFP in 2014 had a BC industry leading Medical Incident Rate of 1.31 which is the lowest in company history. See indicator 6.3.2 for specific details.
	Training Assistance	Assisted planning contractors with training of young workers to facilitate the hiring of new workers into the forest industry.
	Local Arts, Culture, and Education	Supported Powell River Kings Junior “A” hockey.
		Supported the Powell River Curling Club.
		Supported the Powell River Yacht Club.
		Supported Community Resource Center with firewood.
		Supported Kathaumixw.
		Supported the Banff Mountain Film Festival at Brooks School.
		Provided support to the Catholic School PTA.
		Assisted with Grade 5 forestry field trip for Westview Elementary.
		Spent an evening with the Junior Forest Wardens on forestry.

		Donated logs for the outdoor classroom at James Thomson school.
		Provided access to firewood for Brooks School dry grad fundraiser.
	Recreation	Recreation maps for the DFA continue to be available.
		Management and maintenance for the Canoe Route and other recreations sites continues. Championed the booming of driftwood on Horseshoe Lake to improve canoe access.
		Worked closely with PRPAWS to manage for the SCT where influenced by harvesting. Significant efforts made to find site specific solutions that optimize all aspects of forest management. Financial support also provided for trail maintenance and equipment purchases.
		Provided Tourism Powell River with digital data and financial assistance so they could produce an updated recreation map for the upper Sunshine Coast.
		Road hotline maintained to assist with safe recreation use of the working forest.
		Moved gate to LL-038 to assist with managing access to the horse corral and canoe route campsite.
	Road access	Continued with road surfacing upgrades and replacement of bridge crossing infrastructure.
	Powell River Salmon Society	Supported Silent Auction at the annual gala dinner.
	Local history	Continued support of the Powell River Forestry Museum.
	Public Involvement	The OIM was produced 12 times and available at westernforest.com. This provides for public input into plans at the development stage.
		CSA certification maintained in 2014 and continued to support the local CAG.
		Hosted a local forestry tour of the DFA. Forest Tour donation proceeds went to “Sunset Stroll for Cancer”.
		Provided Christmas tree permits for Junior Forest Wardens fundraising.
		Help host the Coastal Silviculture Committee workshop in Powell River and presented on a variety of topics.
		Placed information pieces in the PR Living magazine to improve public awareness of forestry in Powell River. Featured CAG.
	Forest Research	Research projects ongoing improving forest management understanding. Provided plots to MFLNRO to support climate change research.
	Young Worker Recruitment	Hired one summer student and participated in the career conference at UBC.
2013	Safety	Significant safety efforts made again. WFP in 2013 had a BC industry leading Medical Incident Rate of 1.36 which is the lowest in company history. See indicator 6.3.2 for specific details.
	Training Assistance	Assisted planning contractors with training of young workers to facilitate the hiring of new workers into the forest industry.
	Cultural education	Provided 240 seedlings for Grade 1 classes.
		Provided seedlings for Earth day at the farmers market.
	Local Arts and Culture	Supported Powell River Kings Junior “A” hockey.
		Supported the Powell River Curling Club.
		Provided giant bonfire for Canada Day.
	Recreation	Recreation maps for the DFA continue to be available.

		Management and maintenance for the Canoe Route and other recreations sites continues. Major infrastructure upgrade continued in 2012 with wheel able access commenced on some portage trails.
		Worked closely with PRPAWS to manage for the SCT where influenced by harvesting. Significant efforts made to find site specific solutions that optimize all aspects of forest management.
		Parking pull-outs constructed at end of the Tin Hat Mountain road to provide for additional parking. Transitions on and off of the old Tin Hat Mountain road constructed to a very high standard.
		Road hotline maintained to assist with safe recreation use of the working forest.
		Provided data to assist with the development of the Tourism Powell River recreation map.
	Road access	Continued with road surfacing upgrades and replacement of bridge crossing infrastructure.
	Powell River Salmon Society	Supported Silent Auction at the annual gala dinner and the sage rod and islander reel raffle.
	Local history	Continued support of the Powell River Forestry Museum.
	Public Involvement	The OIM was produced 12 times and available at westernforest.com. This provides for public input into plans at the development stage.
		CSA certification maintained in 2012 and continued to support the local CAG.
		Hosted a local forestry tour of the DFA.
		Provided Christmas tree permits for Junior Forest Wardens fundraising.
	Forest Research	Eight research projects ongoing improving forest management.
	Young Worker Recruitment	Hired one summer student and participated in the career conference at UBC.
2012	Safety	Significant resources allocated to providing a safe workplace. See indicator 6.3.2 for details.
	Training Assistance	Provided assistance to the Tla'amin GIS department in the use of Google Earth formats.
	Cultural education	Provided 100 Cw seedlings for Grade 1 classes. Provided yellow cedar seedlings for a display at the PR Historical Museum.
	Local Culture and Arts	Provided supported for Kathaumixw choral festival. Supported Powell River Kings Junior "A" hockey.
	Recreation	Recreation maps for the DFA continue to be available.
		Management and maintenance for the Canoe Route and other recreations sites continues. Major infrastructure upgrade continued in 2012 with wheel able access commenced on some portage trails.
		Provided PRPAWS with aluminum spikes to use in place of steel for worker safety. Donated breakwater boom sticks for the new PRPAWS cabin on Powell Lake. Worked closely with PRPAWS to manage for the SCT where influenced by harvesting
		Provided a gate for the KWRA to use to help try and prevent vandalism at their A-Branch cabin.
		Road Hotline maintained to assist in recreational use of the DFA.
	Road access	Replaced a major culvert on Goat Main with new fish passing culvert.

	Powell River Salmon Society	Supported Silent Auction at the annual gala dinner. Provided financial support for the Lang Creek holding tank system maintenance.
	Local History	Supported the local forestry museum as a Platinum level sponsor.
	Chamber of Commerce	Supported the local chamber of commerce.
	Public Involvement	The OIM was produced 12 times and available at westernforest.com. This provides for public input into plans at the development stage.
		CSA certification maintained in 2012 and continued to support the local CAG.
		Hosted a local forestry tour of the DFA.
	Local fundraising	Firewood provided to support local organizations fundraising.
		Donated wood for milling into cedar shingles to assist with a donation to Powell River Child, Youth, and Family Services.
		Raffle of firewood for the Powell River Forestry Museum.
		Provided Christmas tree permits for Junior Forest Wardens fundraising.
	Forest Research	Thirteen research projects ongoing improving forest management understanding.
	Young Worker Recruitment	Hired two summer students (one local) and participated in the career conference at UBC.

2011	Safety	Significant resources allocated to providing a safe workplace.
	Recreation Maps	Recreation maps for the DFA continue to be available.
	Powell Forest Canoe Route	Management and maintenance for the Canoe Route continues. Major infrastructure upgrade initiated in 2011.
	Culvert Replacements	Replaced a major culvert on Goat Main with new fish passing culvert.
	Powell River Salmon Society	Supported Silent Auction at the annual gala dinner.
	Junior Forest Wardens	Christmas tree permits for fundraising.
	Powell River Forestry Museum	Supported the local forestry museum.
	Chamber of Commerce	Supported the local chamber of commerce.
	Powell River Kings	Supported Powell River Kings Junior “A” hockey.
	Open Air Market	Seedlings provided for Father’s Day at the Open Air Market.
	Sunshine Coast Trail	Worked closely with PRPAWS to manage for the SCT where influenced by harvesting.
	Forestry Tour	Hosted a local forestry tour of the DFA.
	Canada Day	Constructed the Giant Bon Fire again for Canada day celebrations.
	CSA certification maintained	CSA certification maintained in 2011 and continued to support the local CAG.
	Operational Information Map	The OIM was produced 12 times and available at westernforest.com. This provides for public input into plans at the development stage.
	Road Hotline	Road Hotline maintained to assist in recreational use of the DFA.
	Firewood	Firewood provided to support local organizations fundraising.
	Forest Research	Ten research projects ongoing.
	Recruitment	Hired two summer students (one local) and participated in the career conference at UBC.
2010	Safety	Significant resources allocated to providing a safe workplace
	Recreation Maps	Recreation maps for the DFA continue to be available
	Powell Forest Canoe Route	Management and maintenance for the Canoe Route completed
	Culvert Replacements	Replaced two major culverts on Goat Main with new fish passing culverts
	Powell River Salmon Society	Supported Silent Auction and provided Cw for log bridges at fish hatchery
	Junior Forest Wardens	Christmas tree permits for fundraising
	Chamber of Commerce	Supported the local chamber of commerce
	Powell River Kings	Supported Powell River Kings Junior “A” hockey
	Sunshine Coast Trail	Provided financial support for Sunshine Coast Trail maintenance
	Forestry Tour	Hosted a local forestry tour of the DFA
	CSA certification maintained	CSA certification maintained in 2010, supported the local CAG, and SFMP revised to meet the new CSA Z809-08 standard.
	Recreation Inventory	Updated visual quality objectives approved through GAR.
	Operational Information Map	The OIM was produced 20 times and available at westernforest.com. This provides for public input into plans at the development stage.
	Road Hotline	Road Hotline maintained to assist in recreational use of the DFA
	Firewood	Firewood provided to support local organizations fundraising
	Forest Research	Twelve research projects ongoing

Performance

2021: SFO did not met the target for 2021. A total of 10 projects were identified whereas the indicator states 10 or more initiatives are required to meet this indicator.

2020: SFO met the target for 2020. A total of 10 community projects were undertaken in 2020 with an estimated total donation and in-kind dollar amount of $71,642.

2019: SFO met the target for 2019. A total of 15 community projects were undertaken in 2019 with an estimated total donation and in-kind dollar amount of $41,469.

2018: SFO met the target for 2018. A total of 14 projects were undertaken in 2018.

2017: SFO met the target for 2017. A total of 21 projects were undertaken in 2017.

2016: SFO met the target for 2016.

2015: SFO met the target for 2015.

2014: SFO met the target for 2014.

2013: SFO met the target for 2013.

2012: SFO met the target for 2012.

2011: SFO met the target for 2011.

2010: SFO met the target for 2010. In 2010 the ability to provide direct funding to specific community projects was very difficult in the current economic conditions. However, Western still managed to contribute to community sustainability through a range of projects and initiatives.

Strategies & Implementation

Recreation in the DFA is important to the local community and many of the community sustainability projects relate to recreation. Strategies to support recreation include:

- Supplying recreation maps for the DFA showing the road network, trail network, and recreation sites.
- Maintaining a Road Hotline which provides current road information to assist recreational access and safety
- Completing field walks with PRPAWS when harvesting and road building influences the Sunshine Coast Trail.
- Monthly communication is completed with PRPAWS to keep them informed of proposed harvesting or road building activities along the Sunshine Coast Trail.
- Managing the Powell Forest Canoe Route with assistance from the Ministry of Forests, Lands, and Natural Resource Operations.
- Assisting local groups and organizations with in-kind projects and expertise
- Completing major road projects to maintain access.
- Communicating and informing local recreation groups of safety related access information
- Meeting with the cabin owners on Powell Lake to keep them informed of planned harvesting activities

Other strategies for contributing to community sustainability are:

- Providing in-kind contributions and expertise to local groups.
- Focusing and safety programs and initiatives to continue to make the DFA a safer place to work.
- Road projects which improve access and enhance environmental objectives

Forecasts

It is expected that the forest industry will continue to be key in the economic sustainability of the local community. As part of this, Western expects to continue to support other initiatives that will further enhance the overall stability of the local community. The primary factor influencing this is the health of the forest industry and the ability to contribute and support other initiatives.

Details/Data Set

A central filing system is maintained of all projects, donations, and correspondence. These files are reviewed on an annual basis to produce the data set for the year.

Monitoring

The TFL Forester compiles the data and reports on the indicator performance in the annual SFM plan.

Indicator 5.2.2 Level of participation and support in training and skills development

Element: 5.2 Communities & Sustainability *Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Employee training and skills	Trained and skilled employees are working on the DFA.	**5.2.2** Level of participation and support in training and skills development	Prior to the commencement of harvesting activities, all employees are trained in the safety and environmental requirements specific to the area they will be working in.	None

History

New Core Indicator in 2010, and then revised to meet the indicator statement in the Z809-16 CSA Standard.

Justification

The level of annual employee training provided characterizes the bulk of Western's training investment. Prior to the commencement of harvesting or road building activities employees are trained in the safety and environmental requirements specific to their job functions. This training culminates with the harvesting release package which includes the requirements specific to the area the employee will be working. The formal release package is therefore a good measure of verifying employee training specific to the task being completed. There is no variance because the pre-work release is a requirement of the companies' Environmental Management System (EMS) and strong commitment to safety.

Current Status & Interpretation

All areas are to have a formal release completed prior to the commencement of activities. A summary of the results is as follows:

Year	Blocks Released	Release Packages received and signed by the contractor	% of Release packages signed off
2021	34	34	100%
2020	25	25	100%
2019	16	16	100%
2018	30	30	100%
2017	29	29	100%
2016	33	33	100%
2015	25	25	100%
2014	38	38	100%
2013	29	29	100%
2012	20	20	100%
2011	29	29	100%
2010	42	42	100%
2009	24	24	100%
2008	10	10	100%
2007	20	20	100%
2006	27	25*	93%
2005	24	24	100%

Performance

2021: SFO met the target for 2021. All 34 blocks released had a formal review completed with the contractor

2020: SFO met the target for 2020. All 25 blocks released had a formal review completed with the contractor

2019: SFO met the target for 2019. All 16 blocks released had a formal review completed with the contractor.

2018: SFO met the target for 2018. All 30 blocks released had a formal review completed with the contractor.

2017: SFO met the target for 2017. All 29 blocks released had a formal review completed with the contractor.

2016: SFO met the target for 2016. All 33 blocks released had a formal review completed with the contractor.

2015: SFO met the target for 2015. All 25 blocks released had a formal review completed with the contractor.

2014: SFO met the target for 2014. All 38 blocks released had a formal review completed with the contractor.

2013: SFO met the target for 2013. All 29 blocks released had a formal review completed with the contractor.

2012: SFO met the target for 2012. All 20 blocks released had a formal review completed with the contractor.

2011: SFO met the target for 2011. All 29 blocks released had a formal review completed with the contractor.

2010: SFO met the target for 2010. All 42 blocks released had a formal review completed with the contractor.

Strategies & Implementation

For the purpose of this indicator "employees" mean contract employees that carry out contract work for Stillwater Forest Operation.

Training of employees occurs over a period of time and through a number of different means. A summary of these strategies and how they are implemented is as follows:

- Contractor and employee safety training sessions: Training is completed of Safety Management Plans and Safe Work Procedures specific to job functions.
- Contractor and employee environmental training sessions: Training is completed in the EMS and CSA requirements applicable to the DFA.
- EMS and EPRP field books: EMS requirements are provided in a reference booklet that employees can keep on their work site
- Other Specialized training: TDG, WHMIS, spill response training, fire fighting – these courses are completed by employees when required.
- Professional Training: WFP Planning staffs maintain their competency through various training sessions each year.

Forecasts

Based on past experience and management commitment, it is expected that detailed release packages will continue to be completed for each block prior to harvesting commencement.

Details/Data Set

Contractors are required to sign-off on each release package. Paper copies of the completed release packages are filed in the appropriate cutblock file with digital copies saved in each cutlbock folder on the companies' network.

Monitoring

The Operations are responsible to maintain copies of the pre-work release packages. The Operations Administrator is responsible to file the completed packages in the paper and digital cutblock file.

The TFL Forester reports on the indicator performance in the annual SFM report.

Indicator 5.2.3 Level of direct and indirect employment

Element: 5.2 Communities & Sustainability *Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Full-time jobs on the DFA	There are stable full-time jobs provided from the forest resource on the DFA	**5.2.3** Level of direct and indirect employment	Level of direct and indirect employment is relatively stable varying by less than -15% from year to year.	-10%

History

New Core Indicator in 2010, and continued in the Z809-16 CSA Standard.

February 9, 2022 CAG Meeting: As per recommendations in the 2021 Internal Audit, the Target and Variance have been set to -15% and -10% respectfully. This will allow for instances where employment has increased more than 25% while still meeting the indicator.

Justification

Market demand and the Annual Allowable Cut (AAC) of the DFA are the two primary drivers influencing employment levels on the DFA. Markets can cause employment fluctuations from year to year and even quarter to quarter. The AAC influences employment over a longer time period, particularly at each management plan update. The DFA is a very important economic driver for the local economy and the preference is to provide for local stable employment levels from year to year.

A Price Waterhouse Coopers report from 1999 concluded that for each direct man-year of employment in the logging/forestry sector supports another man-year of indirect employment.

The 10% variance level is meant to help account for normal market fluctuations that occur in the cyclical forest industry.

Current Status & Interpretation

Employment levels from year to year are summarized in the following table.

	Man-years of employment			Annual
Year	**Direct Employment**	**Indirect Employment**	**Total Employment**	**% change**
2021	162	162	324	+12%
2020	142	142	284	+33%
2019	96	96	192	-46%
2018	177	177	354	+16%
2017	147	147	294	-15%
2016	172	172	344	+5%
2015	168	168	336	-1%
2014	169	169	338	+ 8%
2013	156	156	312	+6%
2012	148	148	296	-12%
2011	169	169	338	+14%
2010	145	145	290	+29%

2009	104	104	208	-

Performance

2021: SFO met the target for 2021.

2020: SFO did not meet this indicator in 2020. The USW strike from 2019 continued into the first quarter of 2020. There was a 33% increase in total exposure hours for 2020, as compared to 2019.

2019: SFO did not meet this indicator in 2019. SFO harvesting contractors operated only for the first 6 months of 2019. On July 1st the USW union voted to strike against Western Forest Products. Although there are no Western USW employees in Powell River, the USW sawmill workers on Vancouver Island were on strike which impact SFO's ability to harvest and deliver logs to our sawmills.

The strike continued through to the end of 2019 and into 2020. For this reason, the total exposure hours for SFO is about ½ of what it normally is.

2018: SFO met the target for 2018.

2017: SFO met the target for 2017. There is a 15% drop in man-years of employment due to operational shutdowns in the first quarter of the year and prolonged fire weather shutdowns in the summer months. The Stillwater dryland sort provided an additional 33 man-years of direct employment which are not included in the table above.

2016: SFO met the target for 2016. Employment levels were relatively stable with a slight decrease of 5% in total employment from the previous year.

2015: SFO met the target for 2015. Employment levels were relatively stable with a slight decrease of 1% in total employment from the previous year.

2014: SFO met the target for 2014. Employment levels were relatively stable with an 8% increase in total employment from the previous year. The Stillwater dryland sort provided an additional 31 years of direct employment which are not included in the table above. The Stillwater dryland sort has been very successful in attracting barges with wood from the central coast bringing additional jobs to the Powell River area.

2013: SFO met the target for 2013. Employment levels were relatively stable with a 6% increase in total employment from the previous year. The Stillwater dryland sort provided an additional 31 years of direct employment which are not included in the table above. The Stillwater dryland sort has been very successful in attracting barges with wood from the central coast bringing additional jobs to the Powell River area.

2012: SFO met the target for 2012. In 2012 the harvest level stabilized with a slight decrease from 2011 and the employment level dropped accordingly by 12% from the previous year.

2011: SFO met the target for 2011. As markets continued to improve in 2011 employment increased a further 14%. This is a total increase of 38% from the market lows of 2009.

2010: SFO met the variance for 2010. As markets improved in 2010 from the extreme lows of 2009 the level of employment increased by 29%.

Strategies & Implementation

It is currently Western's strategy to set operational levels that align as much as possible with market demand within the AAC limits set by legal agreements and regulation. Also, employment is guided by contractual agreements with contractor rights under legislation (Bill 13).

Forecasts

It is expected that employment will be relatively stable from year to year but fluctuations will occur due to the highly cyclical nature of the forest industry. Other external forces that can have an effect include labour strikes, extended weather extremes, productivity gains due to technological advancements and unforeseen land-base reductions.

Details/Data Set

One man year of employment is equal to one employee working 8 hours per day for 180 days (= 1,440 hours per year). The Stillwater Dryland Sort is not included in the direct employment as it is located outside of the DFA.

Monitoring

The man years of employment number is calculated based on the exposure hour's data collected for safety statistics.

Man years of employment include all planning and development, harvesting, silviculture and integrated resource management, processing (local) and administration employees. This figure includes both company and contract jobs for WFP in forestry and manufacturing within the DFA.

The Operations Administrator collects the exposure hour's information monthly. The TFL Forester reports on the indicator performance in the annual SFM report.

Indicator 5.2.4 CAG is informed of corporate policy, program changes, and initiatives in a timely manner.

Element: 5.2 Communities & Sustainability *Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The timeliness of communication with CAG.	CAG is informed in a timely manner of information regarding the DFA.	**5.2.4** CAG is informed of corporate policy, program changes, and initiatives in a timely manner.	CAG is informed of corporate policy program changes and initiatives in a timely manner 100% of the time.	None

History

This is a local indicator developed in 2004.

Indicator 6.4.4 from previous version of the SFMP has been changed to 5.2.4 to align with the core indicators in the Z809-16 CSA Standard.

Justification

The timely sharing of information with the CAG assists in maintaining a functioning process to the satisfaction of the participants.

Current Status & Interpretation

A summary of information shared by year is summarized in the following table.

Year	Information Shared
2021	CAG was informed of all changes 100% of the time. • WFP press releases. • Operational updates and notification of operating changes • OIM updates. • Company updates. • Road and Safety Webpage and social media sites updates. Below are examples of information shared with or presented to the CAG: • Carbon 101 Presentation – Marie-Eve Leclerc • Old Growth Discussion – John Deal • Ladysmith Sawmill Operation updates • 2021 Silviculture Operations • Hemlook Looper and Forest Health – Eliot King • All PAG meeting – Company updates and key issues. Don Demens & Shannon Janzen. • Covid-19 updates.PHO Orders • Rules of the Road update • Big Tree / Special Trees • 2020 WFP Sustainability Report • Western Stewardship and Conservation Plan • Tla'amin IRMP announcement.

2020	CAG was informed of all changes 100% of the time. • WFP press releases. • Operational updates and notification of operating changes • OIM updates. • Company updates. • Road and Safety Webpage and social media sites updates. Below are examples of information shared with or presented to the CAG: • Covid-19 updates. • Review of the 2020-2025 PMP • Big Tree / Special Trees • 2019 WFP Sustainability Report • COFI Strong Communities 2019 Regional Supply Chain Report • Western Stewardship and Conservation Plan • The state of BC Forests: A Global Comparison, Dr. John Innes. • All PAG meeting – Company updates and key issues, Shannon Janzen.
2019	There were no exceptions noted in the 2019 CAG meeting minutes. CAG was informed of all changes 100% of the time. • WFP press releases. • Operational updates and notification of operating changes • OIM updates. • Company updates at each meeting. • Road and Safety Webpage and social media sites updates. Below are examples of information shared with or presented to the CAG: • BC Premier Horagan announcement for policy reforms to rebuild the coastal forest sector. • Review of the Professional Reliance Legislation • 2019 AVICC field tour and invitation to participate. • Sishalh Foundation Agreement Review • Huumiis Ventures Limited Partnership – TFL 44 • 2018 WFP Sustainability Report • COFI Regional Economic Impact Report and Fact Sheet • Western Stewardship and Conservation Plan • Western Big Tree Standard and youtub Video • Old Growth on the Coast of BC
2018	There were no exceptions noted in the 2018 CAG minutes. CAG was informed of all changes 100% of the time. • WFP press releases. • Operational updates and notification of operating changes • OIM updates at each meeting. • Company updates at each meeting. • Road and Safety Webpage and social media sites updated regularly.

2017	There were no exceptions noted in the 2017 CAG minutes. CAG was informed of all changes 100% of the time. • WFP press releases. • Forest Stewardship Plan updates relative to the Replacement FSP. • Operational updates and notification of operating changes • OIM updates at each meeting. • CAG invited to attend Annual Contractor meeting. • Company updates at each meeting. • Road and Safety Webpage and social media sites updated regularly.
2016	There were no exceptions noted in the 2016 CAG minutes. CAG was informed of all changes 100% of the time. • WFP press releases • Forest Stewardship Plan updates relative to extension requests and the Replacement FSP. • Operational updates and notification of operating changes • OIM updates at each meeting. • CAG invited to attend Annual Contractor meeting. • Company updates at each meeting • Road and Safety Webpage and social media sites updated regularly.
2015	There were no exceptions noted in the 2015 CAG minutes. CAG was informed of all changes 100% of the time. • WFP press releases • Management Plan #9 • CAG informed of renewal of the Pest Management Plan and Notice of intent to treat: annual silviculture review and planned treatments review • CAG kept apprised of developments and have ability to provide input into the Marbled Murrelet and Goshawk Recovery Strategy. • Operation updates and notification of operating changes • OIM updates during the summer • CAG invited to attend Annual Contractor meeting. • Company updates at each meeting • Road Access updates
2014	There were no exceptions noted in the 2014 CAG minutes. CAG was informed of all changes 100% of the time. • WFP press releases • Management Plan #9 • CAG informed of renewal of the Pest Management Plan and Notice of intent to treat: annual silviculture review and planned treatments review • CAG kept apprised of developments with the Marbled Murrelet Recovery Strategy. • Operation updates and notification of operating changes • OIM updates during the summer • CAG invited to attend a meeting with VP Timberlands and Annual Contractor Safety Meeting • CSA certification press releases - kept informed of the CSA Standard Review process. • Company updates at each meeting • Road Access updates • CAG invited to participate in the Coastal Silviculture Committee Workshop - it was held in Powell River in 2014. • CAG invited to Saanich Forestry Center 50th anniversary celebration

2013	There were no exceptions noted in the 2013 CAG minutes. CAG was informed of all changes 100% of the time. • WFP press releases • CSA certification press releases – opportunity to participate in interview regarding certification. • Forest Practices Board – audit, investigation, and press releases and opportunity to participate. Mention of CAG in FORUM magazine. • Management Plan #9 • Notice of intent to treat: annual silviculture review and planned treatments review • Operation updates and notification of operating changes • OIM updates during the summer • CAG invited to attend the Town Hall Meetings and Annual Contractor Safety Meetings • Company updates at each meeting • Road Access updates
2012	There were no exceptions noted in the 2012 CAG minutes. CAG was informed of all changes 100% of the time. • WFP press releases • CSA certification press releases – opportunity to participate in interview regarding certification. • Notice of intent to treat: annual silviculture review and planned treatments review • Operation updates and notification of operating changes • OIM updates during the summer • CAG invited to attend the Town Hall Meetings and Annual Contractor Safety Meetings • Company updates at each meeting • Road Access updates
2011	There were no exceptions noted in the 2011 CAG minutes. CAG was informed of all changes 100% of the time. • WFP press releases • CSA certification press releases – opportunity to participate in interview regarding certification. • Notice of intent to treat: annual silviculture review and planned treatments review • Operation updates and notification of operating changes (shutdowns) • OIM updates during the summer • CAG invited to attend the Town Hall Meetings and Annual Contractor Safety Meetings • Company updates at each meeting • Road Access updates
2010	There were no exceptions noted in the 2010 CAG minutes. CAG was informed of all changes 100% of the time. • WFP press releases • CSA certification press releases • Notice of intent to treat: annual silviculture review and planned treatments review • Operation updates and notification of operating changes (shutdowns) • OIM updates during the summer • Company updates at each meeting
2009	There were no exceptions noted in the 2009 CAG minutes. CAG was informed of all changes 100% of the time. • WFP press releases • CSA certification press releases • Notice of intent to treat: annual silviculture review and planned treatments review • Operation updates and notification of operating changes (shutdowns) • OIM updates during the summer • Company updates at each meeting

2008	There were no exceptions noted in the 2008 CAG minutes. CAG was informed of all changes 100% of the time. • WFP press releases • Informed CAG of spill on Giavanno Main • Notice of intent to treat: annual silviculture review and planned treatments review • Harvesting of transmission line isolated timber and visual management • Recreation inventory and new VQOs. • Operation updates and notification of operating changes (shutdowns) • OIM updates during the summer • Company updates at each meeting
2007	There were no exceptions noted in the 2007 CAG minutes. CAG was informed of all changes 100% of the time. - WFP press releases - FSP major amendment – transmission lines - Notice of intent to treat: annual silviculture review and planned treatments review - Hiring of new facilitator/secretary - Design of new cagstw.org website - Release of FPB report on WFP FSP - Western Forest Strategy - OIM updates during the summer - Company updates at each meeting
2006	There were no exceptions noted in the 2006 CAG minutes. CAG was informed of all changes 100% of the time. - Updates on the sale of Cascadia to Western Forest Products - WFP FSP (review and approval updates) - Notice of intent to treat: annual silviculture review and planned treatments review - WFP press releases – closure of Squamish Pulp Mill, acquisition of Canfor's Englewood Division
2005	There were no exceptions noted in the 2005 CAG minutes. CAG was informed of all changes 100% of the time. - Sale of Cascadia to Western Forest Products - WFP FSP (review and approval updates) - Notice of intent to treat: annual silviculture review and planned treatments review
2004	Through the company updates each meeting CAG was updated with program changes and initiatives.

Performance

2021: SFO met the target for 2021.

2020: SFO met the target for 2020

2019: SFO met the target for 2019.

2018: SFO met the target for 2018.

2017: SFO met the target for 2017.

2016: SFO met the target for 2016.

2015: SFO met the target for 2015.

2014: SFO met the target for 2014.

2013: SFO met the target for 2013.

2012: SFO met the target for 2012.

2011: SFO met the target for 2011.

2010: SFO met the target for 2010.

Strategies & Implementation

There are a number of means to achieve the timely sharing of information with the CAG:

- operational information map (OIM) and summary
- WFP updates at scheduled CAG meetings
- forwarding of press releases to the CAG chair
- keeping the CAG chair informed of relevant information and changes at SFO
- email updates of safety related road information to CAG

Forecasts

Based on past experience, where sensitive or confidential data is not at risk, WFP expects to continue to meet this target.

Details/Data Set

CAG minutes will track any exceptions to this indicator. A CAG correspondence file, email, and meeting minutes track information shared with CAG.

Monitoring

The TFL Forester reports on indicator performance in the annual SFM report.

Indicator 5.2.5 The % of reviews or field walks completed where harvesting is planned consistent with the approved Management Principles along the Sunshine Coast Trail.

Element: 5.2 Communities & Sustainability *Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The Sunshine Coast Trail	Manage for the Sunshine Coast Trail consistent with the approved Management Principles. (File:16660-20/16104)	**5.2.5** The % of reviews or field walks completed where harvesting is planned consistent with the approved Management Principles along the Sunshine Coast Trail.	The % of reviews or field walks completed where harvesting is planned consistent with the approved Management Principles along the Sunshine Coast Trail is 100%.	None

History

Local Indicator developed in 2004.

Justification

The Sunshine Coast Trail extends across the Malaspina Peninsula from Saltery Bay to Sarah Point. Within the DFA, extensive sections of the trail are located within the timber harvesting landbase and utilize existing road and rail grade infrastructure that will be utilized for harvesting access in the future. Field walks or office reviews are completed when harvesting is planned along the trail to assist in developing site-specific harvesting plans for managing the trail. In The target and variance reflect Western's commitment to managing for recreational opportunities in the DFA.

Current Status & Interpretation

Field walks and reviews are summarized in the following table beginning in 2004.

Year	Blocks Planned (#)	Blocks Reviewed (#)	Reviewed (%)	Description of Cutblocks Developed Consistent with the Approved Management Principles (File:1660-20/1604)
2021	2	2	100%	• ST-251: Increased clarity around the re-route during active operations. Signs posted to point hikers in the safe direction. • ST-248: Harvesting continued into Q1 of 2021. The treed area adjacent to the trail has been windfirmed.
2020	2	4	100%	• ST-248: 3 field reviews with PRPAWS – March 19, May 20, and June 17. 2 EMS field reviews with WFP Contractors – July 22 with road construction contractor, and Dec 17 with Harvesting contractor. • ST-333: Strategies reviewed and agreed to with PRPAWS in previous years. 1 EMS review with harvesting contractor in June 2020. • Approval granted to PRPAWS for use of downed Cedar log along the SCT near Lewis Lake. 
2019	1	1	100%	• ST-251: Field day on Oct 1 with Eagle Waltz and Tom Koleszar to look at possible re-route of SCT around the north and west end of March Lake through an OGMA. ST-251 Road construction planned for 2020 and harvesting 2021.

				
2018	4	4	100%	• ST-288: re-routed the SCT while completing road construction. Harvesting was completed in early 2018. • ST-341, ST-344, and ST-350: all three of these blocks are located in the vicinity of the Alaska pine road. The access road into these blocks was construced early in 2018 and harvesting was finished in the fall of 2018. During the road construction and harvesting the SCT was monitored for hiking traffic, caution signs were posted, and trucks used caution when driving adjacent to the trail. • In the month of June 2018 the entire trail between Spring Lake and March Lake was walked by WFP at the request of PRPAWS. The purpose was to record areas along this stretch of trail that could be confusing to hikers. Maps were presented to PRPAWS showing problem areas for them to increase signage, as well as areas that WFP would clean up due to the access route into ST-341, ST-344, and ST-350. • For all project work related to the management of the Sunshine Coast Trail, the total In-kind and Contractor costs are estimated at $14,759.00.
2017	4	4	100%	1. FH-044: re-routed the SCT while harvesting the block. Trail inside block was moved to coincide with the special management zone. Foot bridge built by WFP so that hikers can safely walk across the ditchline. The new trail location was brushed out by WFP crews prior to PRPAWS constructing it. 2. ST-249: re-routed the SCT while harvesting the block. Trail inside block was moved to coincide with the special management zone and relocated outside the block in OGMA. Post harvest the special management zone was windfirmed and the trail was cleaned of tops

				and debris. The new trail location was brushed out by WFP crews prior to PRPAWS constructing it. 3. ST-288: re-routed the SCT while completing road construction. Harvesting is planned for early in 2018. 4. ST-333: Road construction completed in spring of 2017. The trail was monitored for hiking traffic throughout the activity. Harvesting is planned for 2019.
2016	3	3	100	5. FH-044: Re-routed the SCT while constructing roads. Trail inside block was moved to coincide with the special management zone. Block is scheduled for harvest in the fall of 2017. Completed field reviews and walks with PRPAWS in the fall of 2016. 6. ST-333: Block conincides with the SCT near Spring Lake. Walked the portion of the trail that is outside the block boundary. Discussed options with PRPAWS during the field review. Road construction planned in spring of 2017. 7. ST-249: Field and office meetings with PRPAWS throughout 2016. Re-routed the SCT while constructing roads in the spring of 2016. Trail inside block was moved to coincide with the special management zone and relocated outside the block in OGMA. Block is scheduled for harvest in the spring of 2017.
2015	1	1	100	8. ST-289: A preliminary field walk was completed to try and locate an alternate route for the SCT off of the existing road that is being reactivated for access. Additional work is required in 2016 to determine whether an alternate route for the SCT is feasible.
2014	2	2	100	9. ST-820: The strategies used to manage for the SCT are as follows: transitions constructed at trail crossing of road, WTRA anchored on a portion of the SCT, Cw vets retained as individual trees along SCT to provide for a visually appealing multi-layered stand, retention patch located below SCT to provide for an aesthetically pleasing cutblock, PRPAWS to provide an alternate SCT location until cutblock reaches green-up in approximately 7 years, SCT will be cleaned where harvested over, and windfirming is planned for sections of WTRA due to high windthrow hazard stand type. 10. FH-033: The strategy used to manage for the SCT is as follows: WTRA established along SCT on the western edge with windfirming. The SCT follows the edge of a gully feature along this section.
2013	2	2	100%	11. LL-038: The strategies used to manage for the SCT are as follows: a special management zone selective cut, relocating a section of trail to provide a direct route, and locating the block boundary to locate the trail within retention. Windfirming is planned for some sections of trail as well. 12. ST-070: The strategies used to manage for the SCT are as follows: relocating the SCT away from the Lang Bay Aggregates pit to avoid future conflict, a special manage zone selective cut within the Dixon

				Road right-of-way to ensure road user safety, and locating a section of trail within retention. Windfirming is planned for the linear retention corridor that has been retained as this is recognized as having a high windthrow risk.
2012	2	2	100%	13. ST-327: The SCT is located on an old grade that will be reactivated to access the block. PRPAWS' preference was for an alternate route and WFP worked with PRPAWS to develop a route that utilizes the adjacent OGMA and riparian area. Windfirming is planned given the high hazard stand type. 14. ST-329: The SCT is located along the western boundary of the blocks. Windfirming is planned given the high hazard stand type.
2011	4	4	100%	15. ST-235: The SCT is located along the eastern boundary of the block. WFP has discussed with PRPAWS that a reroute in this section could help minimize overlaps with future harvesting. 16. LL-029/LL-026: The SCT is located along the western edge of LL-029/LL-026. 17. FH-040: The SCT is located along the western edge of FH-040 on an old logging access road.
2010	7	7	100%	1. ST-148: Trail is located outside block boundary 2. ST-232: PRPAWS chose to reroute SCT into riparian reserve zone 3. ST-327: The SCT is on an old grade that will require reactivation 4. UL-809: The SCT is located outside the block boundary 5. UL-810, UL-811, and UL-813: PRPAWS chose to reroute the SCT through a "narrow" section of the block. WFP has placed a retention patch on the trail and deferred harvest of UL-813 as a windfirming strategy, WFP will windfirm the leading edge of the retention patch. 6. ST-035: The SCT is located outside the block boundary. Positive feedback received from PRPAWS regarding the harvesting of ST-244, ST-245, and ST-246. Culvert installed in ST-822 to facilitate trail access. Windfirming completed in ST-822 along SCT.
2009	4	4	100%	SCT established under Section 56(1) of the Forest and Range Practices Act to facilitate funding. No legal objectives established. MOTCA provides Management Principles for the SCT giving clarity on management expectations for the trail. There were four blocks where field walks were completed in 2009: 1. ST-244, ST-245, and ST-256: Several field walks completed. PRPAWS chose to relocate a portion of the SCT, WFP located a portion of the trail within a retention patch, and a portion of the trail will be harvested and cleaned after logging.

				2. LL-057: One field walk completed. A Special Management Zone was established along the trail and a selective harvest is prescribed.
2008	0	0	100%	There were no new blocks or roads adjacent to the SCT in 2008 requiring a field review. Some items of note are: 1. Positive feedback from PRPAWS regarding harvest of LL-067 adjacent the trail. 2. Positive feedback from PRPAWS regarding SCT crossing of Deer Creek Main. 3. Positive feedback from PRPAWS regarding one crossing of SCT in ST-822 and concerns raised regarding a second crossing of SCT trail in ST-822. Right-of-way timber was temporarily blocking the trail during road construction and has since been removed.
2007	1	1	100%	Numerous meetings and a field review were completed with PRPAWS regarding the design of ST-822 cutblock and roads. WFP recommended to PRPAWS the option of relocating a section of the SCT into OGMA as the risk of windthrow would be less, less road construction would be required, and harvesting would be more efficient. The final layout incorporates the input provided by PRPAWS for the area.
2006	0	0	100%	The harvesting of a portion of the SCT as part of ST-331 that was field reviewed in 2005 was harvested in 2006. Access was restricted on a portion of the SCT in September and October 2006 for the harvesting of ST-331 for safety reasons. The trail was temporarily rerouted and harvesting completed after the summer season to minimize any inconvenience.
2005	2	2	100%	The advisory group minutes did not note any non-conformances to this indicator in 2005. There were no impacts to the Sunshine Coast Trail (SCT) through harvesting or road building. 1. A field review of the proposed harvesting of a portion of the SCT adjacent to ST-331 was conducted with Eagle Walz and Rudi van Zwaaij in 2005. This cutblock is now planned to be harvested in 2006 and at that time the SCT will be closed to the public for safety reasons. Another review was done with Eagle Walz and Paul Kutz on the Deer creek main were the road crosses the SCT during a CAG meeting. This road will be built most likely in the summer of 2006.
2004	0	0	100%	The Sunshine Coast Trail was not impacted by harvesting in 2004. Marking of alternate routes was completed in some cases but not all.

Performance

2021: SFO met the target for 2021. In 2022 all information sharing with PRPAWS will be formalized.

2020: SFO met the target for 2020. A total of 2 blocks were reviewed with PRPAWS in 2020

2019: SFO met the target for 2019. A total of 1 block was reviewed with PRPAWS in 2019

2018: SFO met the target for 2018. A total of 4 blocks were reviewed with PRPAWS in 2018.

2017: SFO met the target for 2017. A total of 4 blocks were reviewed with PRPAWS in 2017.

2016: SFO met the target for 2016. A total of 3 blocks were reviewed with PRPAWS in 2016.

2015: SFO met the target for 2015. A total of 1 block was reviewed with PRPAWS in 2015.

2014: SFO met the target for 2014. A total of 2 blocks were reviewed with PRPAWS in 2014.

2013: SFO met the target for 2013. A total of 2 blocks were reviewed with PRPAWS in 2013.

2012: SFO met the target for 2012. A total of 2 blocks were reviewed with PRPAWS in 2012.

2011: SFO met the target for 2011. A total of 4 blocks were reviewed with PRPAWS in 2011.

2010: SFO met the target for 2010. A total of 7 blocks were reviewed with PRPAWS in 2010.

Strategies & Implementation

The Ministry of Tourism Culture and Arts (MOTCA) established management strategies for the Sunshine Coast Trail when the trail was transferred to MOTCA in 2009. These management strategies include:

- Cleaning the trail after harvest
- Trail relocation to areas of less impact
- Strategically locating retention patches along the trail
- Selective harvesting along the trail

Forecasts

Based on Western's ongoing management of the DFA the Sunshine Coast Trail will continue be managed as is done for the many other recreational opportunities in the DFA.

Details/Data Set

The TFL Forester maintains records of all correspondence and field walks or office reviews in the central filing system.

Monitoring

The TFL Forester compiles the data and reports on the indicator performance in the annual SFM plan.

Indicator 5.2.6 Number of opportunities for educational outreach

Element: 5.2 Communities & Sustainability *Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Knowledge of sustainable forest management.	CAG and the public is knowledgeable of sustainable forest management.	**5.2.6** Number of opportunities for educational outreach	The annual number of opportunities for educational outreach is 10 or more.	-2

History

This is a local indicator developed in 2009.

Indicator 6.5.1 from previous version of the SFMP has been changed to 5.2.6 to align with the core indicators in the Z809-16 CSA Standard.

Justification

Educational outreach has been very successful in Powell River in relation to sustainable forest management and this is reflected in the target to continue to reach a significant people through educational outreach opportunities each year. When members of the local community can see and learn about the details of sustainable forest management on the DFA experience shows an increased support for the benefits of timber as a sustainable resource.

Current Status & Interpretation

A summary of education outreach opportunities by year is summarized on the next page:

Year	Educational Outreach Activity	# of Opportunities
2021	• For a list of CAG specific presentations, see Indicator 5.2.4 • Providing information and maps to members of the public who make email or phone requests. • Various information sharing, and materials provided to local recreational groups throughout the year. • Tla'amin Field Tour in July 2021. • Tla'amin Joint site visit to ST-060 to look at and discuss Old Growth Strategies for this block.	>10
2020	• June 3rd CAG meeting. 2020-2025 Pest Management Plan – Nancy Pezel. • Sept 15th CAG meeting. Presentation by Dr. John Innes on The State of BC Forests: A Global Comparison. • Sept 15th CAG meeting. Presentation by Shannon Janzen on WFP Company Updates and Key issues for the industry. • October 19th CAG Meeting. 2019 WFP Sustainability Report. • October 19th CAG Meeting. WFP Big Trees & BC Government Special Trees. • Providing information and maps to members of the public who make email or phone requests. • 1 Old Growth meetings with interested individuals. • 1 meeting with local environmentalist. • Several phone discussions and email correpsondance with members of the local group - Pesticide Free Powell River. Information and maps provided. • Various information sharing, and materials provided to local recreational groups throughout the year.	10
2019	• January 15th. Field trip with Grade 6/7 students from Henderson Elementary School. ST-354. ST-358, OFP Dry Land Sort. • January 24th. Presentation to Westview Elementary School. Presentation to Kindergarten aged students. • January 30th. Junior Forest Wardens presentation. • February 13th CAG meeting. Shishalh Foundation Agreement, Professional Reliance Legislation, and Coastal Forestry Revitalization Presentations. • March 13th CAG meeting. Presentation by Murray Hall on Community sustainability relative to vulnerabilities in the forest sector. • April 10th CAG meeting. Information review on TFL 44 Joint Venture, 2018 Sustainability Report, and the COFI economic analysis report and fact sheet. • April 12th AVICC field Tour. Stops included LL-017, TM-272, TM-113, and ST-358. • May 9th Cabin Owners AGM. Presentation to the Powell River Regional Cabin owners Association regarding forestry planning processes and plans for harvest along Powell Lake. • May 15th CAG meeting. Presentation by John Deal on Western Stewardship and Conservation Plan. • June 22nd. Nancy Pezel provided a group of 10 people information about managing for Visuals, OGMAs and UWRs during a Malaspina Naturalists field trip around Powell Lake.	14

	• December 4th CAG meeting. Presentation by Shannon Janzen and John Deal on Old Growth on the Coast of BC. • December 5th meeting between the CAG and the Old Growth Panel. • Providing information and maps to members of the public who drop into the office for an impromptu visit. This normally happens twice per month. • Meetings, information sharing, and materials provided to local recreational groups throughout the year.	
2018	• CAG field trip on September 12, 2018. • February 18, 2018 CAG meeting Presentation on LiDAR. • March 19, 2018 CAG meeting Presentation on SFI and CSA Certification systems. • Presentation to the Powell River Regional Cabin owners Association regarding forestry planning processes and plans for harvest along Powell Lake – May 8, 2018. • May 16, 2018 CAG meeting Presentation on WFP Forest Strategyand Wildlife. • June 13, 2018 CAG meeting Presentation on WFP Corporate Updates and changes. • October 17, 2018 CAG meeting Presentation on the 2018 Fire Season, Fire smart Interface, and Smoke Management. • November 14, 2018 CAG meeting Presentation on 2017 and 2018 Silviculture Reports. • December 12, 2018 CAG meeting Presentation on water quality and quantity in watersheds supplying domestic water. • Providing information and maps to members of the public who drop into the office for an impromptu visit. This normally happens twice per month. • Meetings, information sharing, and materials provided to local recreational groups throughout the year. • Maintaining public access to the CAG and WFP websites. • Providing the public road and safety information updates to the Powell River Road and Safety website.	13
2017	Powell River Living and Powell River Peak periodic articles 4 articles in total throughout the year. Readership estimated at 5000 from Sunshine Coast, on BC ferries, and visitors to the community.	1
	Mike gave a presentation to the Powell River Regional Cabin owners Association regarding forestry planning processes and plans for harvest along Powell Lake – April 25, 2017.	1
	Public Field Trip in Stillwater.	1
	September 15, 2017. CAG Field Trip.	1
	CAG Educational Opportunities: • January 16th, 2017 John Bunning's presentation on visual analysis. • September 15th, 2017 Field tour with various stops for discussions around stand economics, resurfacing, sunshine coast trail re-routing, and the Powell Forest Canoe Route upgrades. • September 18th, 2017 Ken Mackenzie presentation on Simplified sorting and Sustainability Metrics. • October 16th, 2017 Tyson Berkenstock presentation on Wetlands.	5

	• November 20th, 2017 Blake Fougere's presentation on FREP and Invasive Plants.	
	Estimated Total	**9**
2016	CAG Educational Opportunities: 1. January 11, 2016 – Life of an Auditor – Will Sloan RPF. WFP 2. Feb 1, 2016 – NOGO and MAMU Presentation – John Deal WFP. 3. Feb 15, 2016 - Fibre Supply – Murray Hall 4. April 11, 2016 - Research on the coast – Colin Koszman FP Innovations 5. May 9, 2016 – Ambrosia Beetle – Eveline Stokkink 6. September 12, 2016 – First Nations in the Sunshine Coast District – Mark Sloan FLNRO 7. October 17, 2016 – CP and RP Authorization Process – Darwyn Koch WFP 8. December 12, 2016 – WFP Lean Initiative – Stuart Glen WFP	8
	Powell River Living Ferns and Fallers magazine 2016. Readership included below.	1
	September 22-23, 2016. All PAG meeting in Port McNeil – Various topics and field trips.	1
	October 3, 2016: Meeting with the Eldred climbing Community and other concerned citzens relating to WFP harvesting in the Eldred Valley.	1
	Mike gave a presentation to the Powell River Regional Cabin owners Association regarding forestry planning processes and plans for harvest along Powell Lake – April 12, 2016.	1
	Powell River Living periodic articles 4 articles in total throughout the year. Readership estimated at 10,000 from Sunshine Coast, on BC ferries, and visitors to the community.	1
	Estimated Total	**13**
2015	CAG Educational Opportunities: 9. January 14, 2015 – Stream and Crossing Assessments – Doug McCorquodale, R.P.Bio, Pacificus Biological Services 10. Feb 11, 2015 – Mechanized falling and safety - Russ Parsons and Chris Westgate – Tilt Contracting 11. March 23, 2015 - 2014 Silviculture Review – Nancy Pezel, RFP of WFP 12. April 8, 2015 - Water Quality, Haslam CWAP update – Brian Carson 13. May 13, 2015 - Landscape Level Planning to the Block Level – Stuart Glen, RPF of WFP 14. June 19, 2015 – PD Heli field trip 15. October 5, 2015 - Climate Change and Assisted Tree Migration – Annette Van Niejenhuis, Tree Improvement Forester, WFP 16. November 16, 2015 - Growing a Healthy Forest – Seedlings and Vegetation Management –Stuart Glen, WFP & Kelly Niedermayer, Adept Vegetation Management	8
	Nancy worked with 4 MFLNRO summer students and showed them how to do survival surveys. They completed surveys on 4 cutblocks.	1
	Mike gave a presentation to the Powell River Regional Cabin owners Association regarding forestry planning processes and plans for harvest along Powell Lake – April 7, 2014.	1

	Powell River Peak article about Nanton Lake Rec site – October 28, 2015	1
	Powell River Living monthly information pieces and Ferns and Fallers magazine.	1
	Estimated Total	12
2014	CAG Educational Opportunities: 1. February 6, 2014 – Saltair Mill Tour 2. February 19, 2014 – Bryce Bancroft – Marbled Murrelet Recovery Strategy 3. April 23, 2014 – Partnerships – WFP Manager of Strategic Planning – Paul Nuttall 4. September 10, 2014 – Managing for Wildlife – Sue McDonald, Wildlife Biologist 5. October 9, 2014 – Employment and Forest Worker Training – Lisa Perrault, WFP 6. November 12, 2014 – MFLNRO and coastal log exports – Alan Rudson, MFLNRO 7. December 2, 2014 – Sylvan Vale nursery field trip	7
	For National Forestry Week on September 27, 2014, Stuart and Nancy organized a public woods tour of our operations.	1
	Coastal Silviculture Committee Workshop – some public in attendance.	1
	Grade 5 class forestry field trip.	1
	Mike gave a presentation to the Powell River Regional Cabin owners Association regarding forestry planning processes and plans for harvest along Powell Lake – April 7, 2014.	1
	Powell River Living monthly information pieces and Ferns and Fallers magazine.	1
	Estimated Total	12
2013	CAG Educational Opportunities: 1. January 9, 2013 – Rick Jeffery, President and CEO, Coast Forest Products Association 2. April 10, 2013 – Management Plan #9 – Peter Kofoed and Kerry McGourlick, WFP 3. May 8, 2013 – The Planning Process – Walt Cowlard, RPF and Stuart Glen, RPF 4. August 20, 2013 – CAG Field Trip – Accessing the unconventional landbase 5. October 9, 2013 – CRIT – What are forest professional working on? – Blake Fougere, RPF, MFLNRO 6. November 13, 2013 – The Columbia experience, Cut control – Makenzie Leine, RPF, WFP 7. December 10, 2013 – Chief Councillor Clint Williams – Tla'amin First Nation	7
	For National Forestry Week on September 14, 2013, Stuart and Rudi organized a public woods tour of our operations.	1
	Supplied yellow cedar seedlings to the 'Hands on History Program' at the Historical museum.	1
	Supplied cedar seedlings for the aboriginal education program at the primary level in local schools.	1

	Mike gave a presentation to the Powell River Regional Cabin owners Association regarding forestry planning processes and plans for harvest along Powell Lake.	1
	Estimated Total	11
2012	CAG Educational Opportunities: 1. January 11, 2012 – Mark Anderson, District Manager, MFLNRO 2. February 8, 2012 – Managing the Genetic Resource and Land Based Investment – Annette Van Niejenhuis, WFP 3. April 11, 2012 – Rudi vanZwaaij, RPF – 2012 Silviculture review 4. May 24, 2012 – Stuart Glen – CAG Field Trip 5. June 13, 2013 – Coastal Fiber: Balances and Movements – Mr. Murray Hall, Murray Hall Consulting 6. September 26 and 27, 2012 – PAG Workshop and Field Trip 8. October 10, 2012 – Ken Mackenzie – Operations Update 9 November 14, 2012 –MP #9 Timber Supply Analysis – Mike Davis, WFP, Acacia Nethercut-Wells, Planning Summer Student	9
	CAG hosted a workshop and field trip of WFP PAGs.	1
	For National Forestry Week on September 15, 2012, Stuart and Rudi organized a public woods tour of our operations.	1
	Hosted a field tour of Senior Foresters on September 17 and 18.	1
	Hosted a Forestry Booth at the Fall Fair to provide information and interest in local forest management.	1
	CAG and WFP were guest dinner speakers at a local Rotary club meeting.	1
	Supplied yellow cedar seedlings to the 'Hands on History Program' at the Historical museum.	1
	Supplied cedar seedlings for the aboriginal education program at the primary level in local schools.	1
	Mike gave a presentation to the Powell River Regional Cabin owners Association regarding forestry planning processes and plans for harvest along Powell Lake.	1
	Estimated Total	17
2011	CAG Educational Opportunities: 1. January 12, 2011 – Blake Fougere, FREP monitoring 2. March 9, 2011 – Silviculture Review – Rudi VanZwaaij Theodosia Watershed – Erik Blaney 3. April 11, 2011 – Shannon Janzen, RPF – Carbon, Forests, and Wood Products 4. May 30, 2011 – Stuart Glen – CAG Field Trip 5. September 14, 2011 – Mark Haupt - Safety at WFP 6. October 12, 2011 – Blake Fougere – Timber Supply Review 7. November 9, 2011 – Allan Knapp – A Summer of Learning	7
	For National Forestry Week on September 10, 2011, Stuart and Rudi organized a public woods tour of our operations.	1
	Tree planting completed with grade 1 students at the recreation complex. May 5, 2011.	1
	Supplied cedar seedlings for the aboriginal education program at the primary level in local schools.	1
	Mike gave a presentation to the Powell River Regional Cabin owners Association regarding forestry planning processes and plans for harvest along Powell Lake.	1

2010	CAG Educational Opportunities: 1. January 13, 2010 – Jeff Ternan, Manager SFO – 2010 logging forecast 2. March 10, 2010 – Silviculture Review – Rudi VanZwaaij 3. June 7, 2010 – Stuart Glen, RPF – CAG field trip to Lewis Lake 4. October 13, November 10, December 8, 2010 – Review of indicators to CSA Z809:08	4
	For National Forestry Week on June 19, 2010, Stuart and Rudi organized a public woods tour of our operations.	1
	Article in Peak Newspaper on December 29, 2010 regarding the Powell Forest Canoe Route	1
	Supplied cedar seedlings for the aboriginal education program at the primary level in local schools.	1
	Mike gave a presentation to the Powell River Regional Cabin owners Association regarding forestry planning processes and plans for harvest along Powell Lake on April 19, 2010.	1
	Estimated Total	8
2009	CAG Educational Opportunities: 1. January 9, 2009 – Steve Gordon M.Sc., R.P. Bio – Mountain Goat Research and Focal Species Habitat Management 2. March 11, 2009 – Silviculture Review – Rudi VanZwaaij 3. May 13, 2009 – Bill Beese, RPF – Adaptive Management Learning's 4. September 9, 2009 –Michel de Bellefeuille, Introduction to CSA Z809:08 5. October 7, 2009 – Climate Change and Coastal Forestry Session 6. November 18, 2009 – Bruce McKerricher, BC Timber Sales, Larry Henkleman, Timber Pricing and Appraisals, WFP	6
	For National Forestry Week on September 26, 2009, Stuart and Rudi organized a public woods tour of our operations.	1
	Rudi planted trees with the Grade 2-3 class at Henderson School for Earth Day.	1
	Supplied cedar seedlings for the aboriginal education program at the primary level in local schools.	1
	Mike gave a presentation to the Powell River Regional Cabin owners Association regarding forestry planning processes and plans for harvest along Powell Lake in April 2009.	1
	The Regional District along with CAG and WFP helped provide a Climate Change and Coastal Forestry Session for a wide range of community members.	1
	Stuart spent a day with the Grade 1 class at Grief Point School teaching about what types of work foresters do.	1
	Estimated Total	12

Performance

2021: SFO met the target for 2021.

2020: SFO met the target for 2020. A total of 10 educational outreach opportunities in 2020

2019: SFO met the target for 2019. A total of 14 educational outreach opportunities in 2019.

2018: SFO met the target for 2018. A total of 13 educational outreach opportunities in 2018.

2017: SFO met the target for 2017.

2016: SFO met the target for 2016.

2015: SFO met the target for 2015.

2014: SFO met the target for 2014.

2013: SFO met the target for 2013.

2012: SFO met the target for 2012.

2011: SFO met the target for 2011.

2010: SFO met the target for 2010.

Strategies & Implementation

There are a number of avenues available for educational outreach regarding sustainable forest management and efforts are made in a number of areas including:

- CAG meetings and guest speakers
- CAG field trips to look at indicators in the field
- public forest tours
- school visits and activities
- supplying recreational maps
- CAG website located at cagstw.org
- meeting with local recreation and environmental groups

Forecasts

Educational outreach is an important aspect of forest management and WFP makes continued efforts in this regard. The most important public outreach event of the year is the free public woods tour organized to celebrate National Forestry Week. The feedback from this tour is generally very complimentary and the public appreciates the opportunity to see and learn about sustainable forest management. Based on this experience, WFP expects to continue with a range educational outreach activities in the local community.

Details/Data Set

Details of all education outreach activities are maintained by the TFL Forester in the central filing system. CAG minutes are maintained at the WFP office and on cagstw.org.

Monitoring

The TFL Forester reports on indicator performance in the annual SFM report.

Indicator 6.1.1 Level of participant satisfaction with the public participation process

Element: 6.1 Fair and Effective Decision Making *Demonstrate that the SFM public participation process is designed and functioning to the satisfaction of the participants and that there is general public awareness of the process and its progress*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Public participation process	Maintain an effective public participation process	6.1.1 Level of participant satisfaction with the public participation process	A positive level of participant satisfaction with the public participation process as measured by a biennial survey of CAG membership.	+/- 2 months

History

This is a core indicator in 2010, and continued under the Z809-16 CSA Standard.

The target was revised on November 12, 2014 to adjust the target to a periodic survey of the CAG membership in place of the annual meeting with the third-party auditors.

Previous Indicator 6.4.1 has been revised to reflect the requirements of the core Indicator 6.1.1 under the Z809-16 CSA standard

Justification

Public participation is an important aspect of the CSA Z809-08 standard and efforts are made to maintain an effective public participation process. Given that members are actively participating in the CAG helps to demonstrate that they are reasonably satisfied with the process. To further gauge the level of satisfaction and to look at how we can do better, a periodic survey of the CAG membership can be completed. This survey provides an opportunity for feedback and comments to help measure the level of participant satisfaction with the process.

Current Status & Interpretation

The 2010 annual audit report notes that a positive aspect of the SFM is the excellent relationship established between WFP and the CAG.

Performance

2021: SFO met the target for 2021. Meeting satisfaction surveys were completed following each meeting. This was accomplished virtually, and results were documented in the meeting minutes.

2020: SFO met the target for 2020. Meeting satisfaction survey was completed following the October 22nd CAG meeting – 76% of responses indicated very satisfied, 19% were satisfied, and 5% were somewhat satisfied. Somewhat satisfied responses based on the timing of the meeting relative to other demands, the dinner and drinks not sufficient, and not satisfied with the frequency of the meetings.

Satisfaction Surveys have been incorporated into regular meetings starting in January 2021.

2019: SFO did not meet this target for 2019. The last formal survey of the membership was completed in November of 2017.

SFO harvesting contractors operated only for the first 6 months of 2019. On July 1st the USW union voted to strike against Western Forest Products. Although there are no Western USW employees in

Powell River, the USW sawmill workers on Vancouver Island were on strike which impact SFO's ability to harvest and deliver logs to our sawmills.

The strike continued through to the end of 2019 and into 2020. As CAG meetings were not held between May and December, the survey originally planned for the fall of 2019 was not completed. At the December meeting the agenda was fully occupied by the presentations. For this reason, the survey will now be scheduled for 2020.

2018: SFO met the target for 2018. A formal updated survey of the membership was completed in November of 2017. The next survey is planned for the fall of 2019.

2017: SFO met the target for 2017. A formal updated survey of the membership was completed in November of 2017. A follow up meeting to the survey results was completed in February of 2018 with a number of opportunities for improvement discussed.

2016: SFO met the target for 2016. Although a formal updated survey of the membership was not completed in 2016, the advisory group continues to be committed to the process and have good meeting participation. Upon review of this indicator, target, and variance the CAG may want to either revisit the use of the word "periodic" or define "periodic" within the indicator write up. Periodic has been defined as "*occurring or recurring at regular intervals*". Perhaps setting the target for annual surveys with a variance of + 2 years might be a better way to look at measuring this indicator.

2015: SFO met the target for 2015. A formal updated survey of the membership was not completed in 2015. The advisory group continues to be committed to the process and have good meeting participation.

2014: SFO met the target for 2014. CAG completed a survey of the membership in November utilizing the new Satisfaction and Feedback Form. Comments from the surveys were compiled and consensus is that there is a positive level of satisfaction with the public participation process.

2013: SFO met the target for 2013. CAG met with the QMI-SAI Global auditor via telephone in April 2013 and provided their feedback on the CSA process.

2012: SFO met the target for 2012. CAG met with the QMI-SAI Global auditor via telephone in 2012 and provided their feedback on the CSA process.

2011: SFO met the target for 2011. Audit recognizes continued good relationship between CAG and WFP.

2010: SFO met the target for 2010.

Strategies & Implementation

The ongoing genuine commitment to the public participation process continues to be key in the strategy of maintaining an effective and functioning public participation process. Items implemented as part of this strategy include:

- regular meetings between Western and the CAG.
- regular guest speakers on relevant and interesting sustainable forest management topics.
- field trips to look at sustainable forest management in action.
- a SFM Plan relevant to the DFA.
- committed forest professionals working on the DFA implementing sustainable forest management on a daily basis.

- highlighting the profile of the community advisory group through public forest tours, CAG website, and a meeting held in conjunction with the Regional District on the potential effects of climate change on our local forests.
- the timely sharing of information with the CAG (refer to indicator 6.4.4 for more details)

Forecasts

In recent years, the overall satisfaction of the CAG with the public participation process has been positive. WFP continues in its efforts to provide for an effective public participation process and therefore participant satisfaction with the process is expected to continue.

Details/Data Set

The target is determined by reviewing the overall sentiment of feedback received from periodic Satisfaction and Feedback surveys. An overall result will be determined from the survey results by the TFL Forester and CAG. The Satisfaction and Feedback surveys are retained in the central filing system.

Monitoring

The TFL Forester reviews the Satisfaction and Feedback surveys with the CAG to measure an overall level of satisfaction with the public participation process.

Indicator 6.1.2 Evidence of efforts to promote capacity development and meaningful participation in general

Element: 6.1 Fair and Effective Decision Making *Demonstrate that the SFM public participation process is designed and functioning to the satisfaction of the participants and that there is general public awareness of the process and its progress*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Public participation.	There is public participation and awareness on the DFA.	**6.1.2** Evidence of efforts to promote capacity development and meaningful participation in general.	The annual number of meetings held with the Stillwater CAG and public at large is >/=10.	0

History

This was a core Indicator in 2010, and then continued under the Z809-16 CSA Standard.

Previous Indicator 6.4.2 has been revised to reflect the requirements of the core Indicator 6.1.2 under the 2016 standard

Justification

This indicator provides a measure of success at increasing public awareness, addressing public concerns, and ensuring the effectiveness of public consultation. This indicator and target support a proactive approach to seeking public input on a range a forest management topics and issues.

Current Status & Interpretation

A summary of meetings, field visits, communications, and presentations by year is as follows:

Year	Number of CAG Meetings	Number of meetings/correspondence with the Public at Large
2021	8 formal CAG meetings	• 10 meetings throughout the year. 8 CAG meetings, and 2 First Nations field meetings.
2020	4 formal CAG meetings	• 11 meetings throughout the year. 4 CAG meetings, 4 meetings with PRPAWS, 2 meetings with local OG/Environment concerned individuals,1 First Nations Meetings.
2019	5 formal CAG meetings	• 21 meetings throughout the year. 10 CAG related meetings, 1 meeting with PRPAWS, 1 Knuckleheads meetings, 2 Powell River Climbing Group meeting, 1 Powell Lake Cabin Owners AGM meeting, 2 FLNROD meetings, 4 First Nations meetings. • 1 field trip - AVICC. • 3 school aged meetings – Henderson Elementary, Westview Elementary, and the Junior Forest Wardens.
2018	10 formal CAG meetings	• 32 meetings throughout the year. 17 CAG related meetings, 2 meetings with PRPAWS, 1 ORUG meeting, 2 Knuckleheads meetings, 1 Powell River Climbing Group meeting, 1 Powell Lake Cabin Owners AGM meeting, 2 FLNROD meetings, 4 First Nations meetings, 1 ATV club related meeting, and 1 Jefferd Creek Watershed meeting. • 82 letters sent to First Nations and members of the Public. • 4 field trips.
2017	7 CAG meetings	• Powell Lake Cabin Owners – Mike Dunn attended AGM • PRPAWS: Meetings and correspondence (a) SCT field walks or reviews – ST-249, FH-044, ST-333, ST-288. (b) CAG communication – OIM updated relating to the SCT (c) WFP general correspondence (d) Correspondence with PRPAWS in follow-up regarding the Replacement Forest Stewardship Plan. • CAG field trip in September. • Public field trip in September. • General public correspondence.
2016	9 CAG meetings	• Powell Lake Cabin Owners – Mike Dunn attended AGM • PRPAWS: Meetings and correspondence (e) SCT field walks or reviews – ST-249, FH-044, ST-333. (f) CAG communication – OIM updated relating to the SCT (g) WFP general correspondence (h) Correspondence with PRPAWS in follow-up regarding Forest Stewardship Plan renewal. • Coffee shop meeting with the climbing community. Follow up meetings with representatives for the climbing community. • CAG field trip in June. • Regular information pieces in Powell River Living regarding forest management. Advertisement placed in Ferns and Fallers promoting recreational use of the working forest.
2015	9 CAG meetings plus	• Powell Lake Cabin Owners – attended AGM • PRPAWS: Meetings and correspondence (i) SCT field walks or reviews – ST-289. Discussed ST-288 and ST-249.

	meetings with the executive	(j) Monthly CAG communication – OIM updated relating to the SCT (k) WFP general correspondence (l) Correspondence with PRPAWS in follow-up regarding Management Plan #9 questions. • General public correspondence. • CAG field trip to observe heli-logging operations in Powell Daniels at the head of Powell Lake. • Monthly information pieces in Powell River Living regarding forest management. Advertisement placed in Ferns and Fallers promoting recreational use of the working forest. • Field visit with Jefferd Creek watershed board members to LL-039 at completion of harvesting. Completed a joint article in Powell River Living magazine.
2014	9 CAG meetings plus meetings with the executive	• WFP Forestry Tour – September 27, 2014 – CAG participation • Powell Lake Cabin Owners – attended AGM • PRPAWS: Meetings and correspondence (a) SCT field walks or reviews – FH-033, ST-820 (b) Monthly CAG communication – OIM updated relating to the SCT (c) WFP general correspondence (d) Several meetings in 2013 and 2014 letters follow-up regarding Management Plan #9 questions. • General public correspondence. • Monthly information pieces in Powell River Living regarding forest management. Advertisement placed in Ferns and Fallers promoting recreational use of the working forest. • Coastal Silviculture Committee workshop in March – other coastal forest professionals – highlighted successes and learning's of managing for recreational use through-out the working forest. – CAG participation on workshop. • Field visit with Jefferd Creek watershed board members to LL-039 to look at potential area for harvesting and potential creek realignment project. • CAG visit to Sylvan Vale nursery and Fdc realized gain trial in December. • CAG visit to Saltair sawmill in February. • CAG opportunity to meet with VP Timberlands in April. • CAG letter to PRRD to follow-up on information request as it is an election year and PRRD appoints a representative from the Board of Directors. • CSA User Group Chairman's Award press release.
2013	9 CAG meetings plus meetings with the executive	• WFP Forestry Tour – September 14, 2013 – CAG participation • Powell Lake Cabin Owners • Attended AGM • Worked cooperatively with cabins and safety moves • PRPAWS: Meetings and correspondence (e) SCT field walks or reviews – ST-070, LL-038 (f) Monthly CAG communication – OIM updated relating to the SCT (g) WFP general correspondence (h) Several meetings regarding Management Plan #9 questions. • General public correspondence • Viewpoint letter printed in November 20 edition of PR Peak. • Forest Practices Board audit – press release. "Western Forest Products Gets Good Audit" • Opportunity extended to Tourism Powell River to attend and present at one of their meetings regarding recreation in the working forest and professional forestry in general.

		• Community watershed notifications for ST-327 and UL-827/UL-828. • PRPAWS representative attended two CAG meetings. One was to learn more about Management Plan #9 and the second was to share information regarding the Sunshine Coast Trail. • Regional District planner attended a CAG meeting to learn more about Management Plan #9. • FORUM magazine article " In Support of Planning Within a Revised Forest Management Framework" reflected very well on the DFA and the CAG.
2012	8 CAG meetings plus meetings with the executive	• WFP Forestry Tour – September 15, 2012 – CAG participation • CAG hosted a PAG workshop on September 27, 2012 • CAG presented on a tour WFP hosted of Senior Foresters • CAG designed and placed a display at a local open house • CAG and WFP were dinner speaker guests at a Rotary Club meeting • Powell Lake Cabin Owners • Attended AGM • Worked cooperatively with cabins and safety moves • PRPAWS: Meetings and correspondence (i) SCT field walks or reviews – ST-327, ST-329 (j) Monthly CAG communication – OIM updated relating to the SCT (k) WFP general correspondence (l) Field visit regarding Forest Practices Board complaint and the SCT. • General public correspondence • Attended the Fall Fair with a booth to provide information on local forest management. • Attended Regional District meetings when requested to share information on visual management and elk.
2011	7 CAG meetings plus meetings with the executive	• WFP Forestry Tour – September 10, 2011 – CAG participation • Powell Lake Cabin Owners • Attended AGM • Worked cooperatively with cabins and safety moves • PRPAWS: Meetings and correspondence (m) SCT field walks or reviews – UL-810, UL-811 (n) Monthly CAG communication – OIM updated relating to the SCT (o) WFP general correspondence • General public correspondence
2010	8 CAG meetings plus meetings with the executive	• WFP Forestry Tour – June 19, 2010 – CAG participation • Presentation at 'A Tale of Two Cedars' conference in Victoria – May 28, 2010 • Powell Lake Cabin Owners • Attended AGM • Reviewed visual assessments with interested owners • Worked cooperatively with cabins and safety moves • PRPAWS: Meetings and correspondence (p) SCT field walks or reviews – ST-148, ST-232, ST-327, UL-809, UL-810, UL-811, UL-813, ST-035, FH-040 (q) Monthly CAG communication – OIM updated relating to the SCT (r) WFP general correspondence • Powell River ATV Club – notification of activities

		• Outdoor Recreation Users Group: (a) supported job opportunities program for trail and road maintenance (b) Goat II field visits
2009	5 CAG meetings plus meetings with the executive	• WFP Forestry Tour – September 26, 2009 – CAG participation • Brian Carson Presentation on Water Quality – CAG invited • Regional District: Climate Change and Coastal Forestry Session –in conjunction with CAG and WFP. • PRPAWS: Meetings and correspondence (a) SCT field walks or reviews - ST-324, ST-245 (b) Monthly CAG communication – OIM updated relating to the SCT (c) WFP general correspondence • Powell Lake Cabin Owners: (a) Informed cabin owners of development of harvest plans in Chippewa area – comments welcomed (b) April 28, 2009 – presentation at AGM – update of operations on lake • Powell River ATV Club -Notification of activities adjacent ATV use areas. • Outdoor Recreation Users Group - attended ORUG meeting regarding Plutonic deactivation • KWRA: (a) field visits to Knuckleheads – improving access on E-Branch (b) joint interview with PR Peak on Knuckleheads projects

Performance

2021: SFO met the target for 2021.

2020: SFO met the target for 2020.

2019: SFO met the target for 2019.

2018: SFO met the target for 2018.

2017: SFO met the target for 2017.

2016: SFO met the target for 2016.

2015: SFO met the target for 2015.

2014: SFO met the target for 2014.

2013: SFO met the target for 2013.

2012: SFO met the target for 2012.

2011: SFO met the target for 2011.

2010: SFO met the target for 2010.

Strategies & Implementation

Public participation in forest management is completed on an ongoing basis with the CAG and public from the local community. Public participation is achieved through a variety of means including:

- meetings and field visits with the CAG.
- meetings, correspondence, and field visits with the public at large.
- meetings, correspondence, and field visits with local groups and associations.
- monthly Operational Information Map (OIM) communication.
- presentations on forest management topics to a variety of participants.

Forecasts

Western maintains a good relationship with the local community. As part of this, WFP continues to meet with the CAG and the public on a regular basis. WFP expects to continue with their efforts to provide for meaningful participation in the forest management process.

Details/Data Set

Correspondence with the numerous forest user groups, businesses, and the local community organizations are maintained by the TFL Forester in the central filing system.

Monitoring

The TFL Forester summarizes the meetings, correspondence, and field visits completed for the year and reports on the indicator performance in the annual SFM report.

Indicator 6.1.3 Availability of summary information on issues of concern to the public

Element: 6.1 Fare and Effective Decision-making *Provide relevant information and educational opportunities to interested parties to support their involvement in the public participation process, and increase knowledge of ecosystem processes and human interactions with forest ecosystems.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Recreational information.	Recreational information is available for the public using the DFA.	**6.1.3** Availability of summary information on issues of concern to the public	Operational Information Maps for the DFA and road information website and social media internet sites are available all of the time.	None

History

This was a core indicator in 2010, and then continued under Z809-16 CSA Standard.

Previous Indicator 6.5.2 has been revised to reflect the requirements of the core Indicator 6.1.3 under the Z809-16 CSA Standard

Justification

The target recognizes that one of the primary interests for the local community is recreational access on the DFA. Western has therefore summarized this recreational access information into an Operational Information Map, Road Information website, and the social media sites with the target of having them available all of the time.

Current Status & Interpretation

Below are links to the Operational Information Map and associated internet sites:

Western's Web Page: www.westernforest.com

Western's Operational Information Map: www.westernforest.com/sustainability/environmental-stewardship/planning-and-practices/our-forests

Western's Powell River Road Information Web page: www.wfproadinfo.com/powell-river

Western's Road Information Facebook page: www.facebook.com/WFPRoadInfo

Western's Twitter Road Information Page: www.twitter.com/WFPRoadInfo

Year	OIM Availability	Road Information Website	Social Media Sites
2021	OIM was available 100% of the year and was updated every month.	The Road Information website was available 100% of the year and was updated on 7 occasions throughout the year.	The various Social Media sites were available 100% of the time.
2020	OIM was available 100% of the year and was updated for 9 or the 12 months.	The Road Information website was available 100% of the year and was updated on 15 occasions throughout the year.	The various Social Media sites were available 100% of the time.
2019	OIM was available 100% of the year and was updated for 6 or the 12 months.	The Road Information website was available 100% of the year and was updated on 13 occasions throughout the year.	The various Social Media sites were available 100% of the time.
2018	OIM was available 100% of the year and was updated for 8 or the 12 months.	The Road Information website was available 100% of the year and was updated on 10 occasions throughout the year.	The various Social Media sites were available 100% of the time.
2017	Recreation maps were available throughout 2017 through the Powell River Tourism Office.	No new recreational features established in DFA in 2017.	The Road and Safety website and social media sites were updated on 39 occasiaons throughout the year.
2016	Recreation maps were available throughout 2016 through the Powell River Tourism Office.	Tourism Powell River is working on updates to the Recreation Map.	In the later part of 2016 the Road and Safety website was regularily updated 15 times between September and the end of the year.
2015	Recreation maps were available throughout 2015 through the Powell River Tourism Office. Work is ongoing on an updated recreation map.	No new recreational features established in DFA in 2014.	SFO has moved to a website and social media based platform for all road use information. These platforms were updated 11 times. Prior to the implementation of the social media updates, the road hotline was updated 2 times.
2014	Recreation maps were available throughout 2014	No new recreational features established in DFA in 2014	12
2013	Recreation maps were available throughout 2013	No new recreational features established in DFA in 2013	22
2012	Recreation maps were available throughout 2012	No new recreational features established in DFA in 2012	16
2011	Recreation maps were available throughout 2011	No new recreational features established in DFA in 2011	20
2010	Recreation maps were available throughout 2010	No new recreational features established in DFA in 2010	12

Performance

2021: SFO met this target for 2021.

2020: SFO met this target for 2020. The USW strike continued into the first quarter of 2020. Updates to the Social Media sites and the Road Information website was limited during the strike.

2019: SFO met this target for 2019.

SFO harvesting contractors operated only for the first 6 months of 2019. On July 1st the USW union voted to strike against Western Forest Products. Although there are no Western USW employees in Powell River, the USW sawmill workers on Vancouver Island were on strike which impact SFO's ability to harvest and deliver logs to our sawmills. The strike continued through to the end of 2019 and into 2020. Updates to the Social Media sites and the Road Information website was limited during the strike.

2018: SFO met the target for 2018.

2017: SFO met the target for 2017. Operational Information Maps were updated on 12 occasions throughout the year as well as social media sites were updated 39 times throughout the year for road and safety updates.

2016: SFO met the target for 2016. In the latter part of 2016 SFO started updating the road and safety website and associated social media sites on a more regular basis. This practice will continue in to 2017.

2015: SFO met the target for 2015. The new recreation map for the DFA is still in progress, and Stillwater is aiming to have it released in 2016.

2014: SFO met the target for 2014. Stillwater is planning to produce an updated recreation map for the DFA in 2015. The map was not completed in 2014 as all road access classifications are being updated in the central database.

2013: SFO met the target for 2013. Stillwater also provided digital information to Tourism Powell River to assist with the development of their recreation map for the Sunshine Coast. Stillwater is planning to produce an updated recreation map for the DFA in 2014.

2012: SFO met the target for 2012.

2011: SFO met the target for 2011.

2010: SFO met the target for 2010.

Strategies & Implementation

Recreation information for the DFA is summarized through two primary means:

- detailed OIM for the DFA showing road networks, recreations sites, and trails.
- a road hotline maintained with current road use and safety information.

Forecasts

WFP is a strong supporter of recreation in the Powell River area and has the necessary GIS data to produce quality OIMs for visitors to enjoy the DFA. The road hotline feature is being updated to a road info website in 2015 and availability of road safety information is expected to be available for the public into the future.

Details/Data Set

Recreation information is retained in the GIS system. The GIS specialist maintains this system and is responsible for OIM development. A listing of new recreational features is maintained to facilitate updating of the OIM on a monthly basis.

Monitoring

The TFL Forester reports on indicator performance in the annual SFM report.

Indicator 6.2.1 Evidence of cooperation with DFA related workers to improve and enhance safety standards, procedures, and outcomes in all DFA-related workplaces and affected communities.

Element: 6.2 Safety *Encourage, co-operate with, or help improve safety standards and procedures in the workplace and wiithin the community.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Safety of DFA workers.	DFA is the safest in BC.	**6.2.1** Evidence of co-operation with DFA-related workers to improve and enhance safety standards, procedures, and outcomes in all DFA-related workplaces and affected communities.	The number of initiatives implemented annually to improve and enhance safety standards, procedures, and outcomes in all DFA-related workplaces and affected communities is ≥ 2.	≥ 1

History

This was a core Indicator in 2010, and then continued under the Z809-16 CSA Standard

Previous Indicator 6.3.2 has been revised to reflect the requirements of the core Indicator 6.2.1 under the Z809-16 CSA Standard.

Justification

Safety is the most important aspect of all the activities which occur on the DFA and significant effort, time, and resources are committed to safety by Western and the many DFA workers. A key value of Westerns Health and Safety Policy [January 2011] is to strive for continual and lasting improvement in all that we do. One aspect of achieving this is to undertake new safety initiatives each year targeted at continual improvement. The majority of these initiatives tend to be relatively broad and therefore the target has been set at two. The variance is to provide for years when it is determined that one key safety initiative will be the focus.

Current Status & Interpretation

A summary of co-operative safety initiatives undertaken since 2010 in DFA related workplaces and affected communities' area:

Year	Primary Safety Initiatives Undertaken	MIR
2021	• Completion of contractor worksite safety plans on all releases. • Individually tailored safety start up meetings with contractors completed in the first half of 2021. • Weekly and Monthly safety meetings with WFP staff. • Utilized ISN as a third-party contractor manager system. • WFP Safety Inspections completed on all contractors periodically. • Safety observations completed on new and young workers.	0.0
2020	• Completion of contractor worksite safety plans on all releases. • Individually tailored safety start up meetings with contractors completed in the first half of 2020. • Weekly and Monthly safety meetings with WFP staff. • Utilized ISN as a third-party contractor manager system. • WFP Safety Inspections completed on all contractors periodically.	0.0
2019	• Completion of contractor worksite safety plans on all releases. • Individually tailored safety start up meetings with contractors completed in the first quarter of 2019. • Weekly and Monthly safety meetings with WFP staff. • Utilized ISN as a third-party contractor manager system.	0.0
2018	• Completion of contractor worksite safety plans on all releases. • Implementation of WFP Corporate wide H&S Program in August. • Individually tailored safety start up meetings with contractors completed in the first quarter of 2018. • Weekly and Monthly safety meetings with WFP staff. • Implementation of the new PPE safety standard.	0.0
2017	• Continued focus on contractor and staff workplace safety plans. • Focus on road safety – seatbelts, cell phones, headlights, speed, and signage. • Continued focus on nutrition, hydration, sleep, and ergonomics program through the Company MoveSafe Program. • Annual and monthly safety meetings with contractors and staff. • New safety policies implemented: Safe Separation Safety Standard.	0.0
2016	• Continued focus on contractor and staff workplace safety plans. • Focus on road safety – seatbelts, cell phones, headlights, speed, and signage. • Continued focus on nutrition, hydration, sleep, and ergonomics program through the Company MoveSafe Program. • Annual and monthly safety meetings with contractors and staff. • New safety polices implemented: TSS14 – Debris Management Safety Standard, and the Steep Slope Management Plan.	0.0

2015	• Increased focus on new contractors – orientation and mentoring program. • Emergency drill completed by the Planners and Olympic Forest Products • Focus on road safety – seatbelts, cell phones, headlights, speed, signage. • Introduced nutrition, hydration, sleep, and ergonomics program. • Falling safety focus on danger trees. • Work completed with grapple yarding considering rigging, in the clear, and lines. • Truck driver safety program – load dynamics, steep grades, and mechanical issues.	0.0
2014	• Continued focus on log truck safety inspections and training to the WFP hauling standard. • Contractor participation on the WFP Timberlands Safety Council. • Wildlife danger tree assessor training completed. • Integration of road improvements into construction and harvest plans. • Planning and harvesting field visits concurrent with operations. • Inspect and repair of facilities – docks on Powell Lake	0.0
2013	• Continued focus on log truck safety inspections and an air brake refresher course was completed. • Tested emergency response procedures. • Completed best practices field trips. • Developed an improvement plan for yarders. • Focus on falling and providing the necessary support to fallers. • Implemented Movesafe – provides employees with the exercises and stretches that can best assist in completing their job safely.	0.0
2012	• Completed an avalanche risk safety plan with avalanche mapping for the DFA. • Continued focus on log truck safety inspections. • Best practices trip completed to Port Alberni Forest Operation regarding helicopter selection harvesting. • Completed two emergency evacuation drills. • Focused on emergency response planning and having detailed plans in place for all activities.	0.0
2011	• Initiated an avalanche risk assessment and safe work procedure process – current stage is mapping of avalanche areas across the DFA. • Developed and implemented a safety tracking system for all items – observations etc. • Create a consistent standard and useage of signage • Full implementation of the Red Book – falling expectations. • Log truck safety inspections • Narrows and Chip North dock and ramp install/repairs • Improve level of workplace planning – safety plans, feedback, etc. • Training – switchback, all contractor meeting, faller leadership training, danger tree assessment, Hazard assessment training	0.0

2010	• All contractors working for WFP are Safe Company Certified. • Detailed safety plans and cutblock releases with hazard identification – focus on doing Site Safety Plans and tracking of changes well. • Site safety visits and inspections – safety consultations. New contract supervisor hired to assist with safety inspections and monitoring • Contractor safety meetings held – focus is on sharing learning's and feedback. • Continued with focus on detailed and thorough incident investigations and investigating of near-misses. • Testing of the Stillwater Emergency Response System – injured worker. This is scheduled to be tested again in 2011.	5.5

Performance

2021: SFO met the target for 2021.

2020: SFO met the target for 2020.

2019: SFO met the target for 2019.

2018: SFO met the target for 2018.

2017: SFO met the target for 2017.

2016: SFO met the target for 2016. A number of safety initiatives were undertaken in 2016.

2015: SFO met the target for 2015. A number of safety initiatives were undertaken in 2015.

2014: SFO met the target for 2014. A number of safety initiatives were undertaken in 2014.

2013: SFO met the target for 2013. A number of safety initiatives were undertaken in 2013.

2012: SFO met the target for 2012. A number of safety initiatives were undertaken in 2012.

2011: SFO met the target for 2011. A number of safety initiatives were undertaken in 2011.

2010: SFO met the target for 2010. A number of safety initiatives were undertaken in 2010.

Strategies & Implementation

The key strategy regarding the implementation of new safety initiatives is the development of an annual safety improvement plan. This annual plan identifies the key initiatives to be implemented, the individual or team responsible for the implementation, and the date targeted for completion. This plan is developed by the SFO team and finalized by the Occupational Health and Safety Committee (OH&S).

Forecasts

WFP Management and employees at all levels have affirmed that safety is the most important aspect of all activities on the DFA and this is expected to continue.

Details/Data Set

All safety initiatives and activities undertaken are tracked and managed through the operations annual Safety Improvement Plan.

Monitoring

The safety improvement plan is updated and completed annually by the Occupational Health and Safety Committee (OH&S).

The TFL Forester reports on indicator performance in the annual SFM report.

Indicator 6.2.2 Evidence that a worker safety program has been implemented and is periodically reviewed and improved.

Element: 6.2 Safety *Encourage, co-operate with, or help improve safety standards and procedures in the workplace and wiithin the community.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Safety of DFA workers	DFA is the safest in BC	**6.2.2** Evidence that a worker safety program has been implemented and is periodically reviewed and improved.	Safe Company certification is maintained annually by WFP and its independent contractors working on the DFA.	None

History

This was a core indicator in 2010, and then continued under the Z809-16 CSA Standard.

This indicator was updated on September 14, 2011 to include WFP contractors' Safe Company certification.

Previous Indicator 6.3.3 has been revised to reflect the requirements of the core Indicator 6.2.2 under the Z809-16 CSA Standard

Justification

This indicator provides evidence that a worker safety program has been implemented. Western maintains a comprehensive safety program. This safety program is SAFE Company certified through the BC Forest Safety Council. The target and variance reflect Westerns and their contractor's commitment to maintaining an effective safety program certified by the BC Forest Safety Council.

Current Status & Interpretation

WFP is SAFE Company Certified (certificate #9070161) through the BC Forest Safety Council. WFP has recently submitted their most recent audit to the BC Forest Safety Council on December 6, 2010 and scored extremely well.

Western classifies its contractors as either Dependent or Independent.

Dependent contractors are contractors that generally are not SAFE Company Certified and when their workers are working in the TFL they adhere to Western's Safety Program. An example of a dependent contractor would be a low risk contractor who is accompanied in the field by a Western Employee.

Independent contractors are defined as contractors working in the DFA that are currently SAFE Company Certified and complete their work on the TFL under their own Safety Program.

Performance

2021: SFO met the target for 2021. WFP uses ISN as it's Contractor Safety Management system. All contractors are required to maintain a suitable Grade in ISN to work for WFP. ISN monitors all key safety metrics of our contractors.

2020: SFO met the target for 2020. WFP uses ISN as it's Contractor Safety Management system. All contractors are required to maintain a suitable Grade in ISN to work for WFP. ISN monitors all key safety metrics of our contractors.

2019: SFO met the target for 2019. In 2019 Western put in place ISN as our contractor management system. ISN ensures that all our contractors meet not only the minimum requirements of safety legislation, but also that they adhere to other safety policies and standards put in place by Western. All independent contractors require to be safe company certified and registered with ISN.

2018: SFO met the target for 2018.

2017: SFO did not meet the variance for 2017. Although smaller 1 person contractors are not required to maintain SAFE Company Certification, we have a few of these types of contractors working in the DFA. For this reason, we do not meet this indicator.

2016: SFO met the target for 2016. WFP and their contractors continue to be SAFE company certified.

2015: SFO met the target for 2015. WFP and their contractors continue to be SAFE company certified.

2014: SFO met the target for 2014. WFP and their contractors continue to be SAFE Company Certified.

2013: SFO met the target for 2013. WFP and their contractors continue to be SAFE Company Certified.

2012: SFO met the target for 2012. WFP and their contractors continue to be SAFE Company Certified.

2011: SFO met the target for 2011. WFP and their contractors continue to be SAFE Company Certified.

2010: SFO met the target for 2010. WFP and their contractors continue to be SAFE Company Certified.

Strategies & Implementation

SFO is responsible for implementing their safety program and continuing to meet the requirements of SAFE Company certification. The program is applicable to all staff and everyone is responsible to assist the Operation in maintaining, implementing, and improving the safety program.

WFP's contractors implement and maintain their own safety programs to meet the requirements of the SAFE Company certification. Prior to commencing work for WFP, a review is completed to ensure each contractor is currently SAFE Company certified.

Forecast

SAFE Certification is valid for 3 years from the date of certification, providing all annual maintenance audit requirements are met. It is expected that SAFE Company certification will be maintained.

Details/Data Set

SAFE Company certification and audit result records are maintained. SAFE Company status is available at http://www.bcforestsafe.org/safe_companies/whos_safe.html.

Monitoring

The TFL Forester reports on indicator performance in the annual SFM report.

Indicator 6.2.3 Evidence that the organization has co-operated with other forest-dependent businesses, forest users, and the local community to strengthen and diversify the local economy

Element: 6.2 Safety *Encourage, co-operate with, or help to provide opportunities for economic diversity within the community.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The **l**ocal economy	A strong and diversified local economy.	**6.2.3** Evidence that the organization has co-operated with other forest-dependent businesses, forest users, and the local community to strengthen and diversify the local economy.	Co-operation is demonstrated annually with other forest-dependent businesses, forest users, and the local community to strengthen and diversify the local economy.	None

History

This was a core Indicator in 2010, and then continued under the Z809-16 CSA Standard

Previous Indicator 6.3.1 has been revised to reflect the requirements of the core Indicator 6.2.3 under the Z809-16 CSA Standard

Justification

The forest products industry will continue to be the key economic driver supporting the local community. There are however a range of other benefits, products, and services that can be supported by the DFA that will strengthen and diversify the local economy. Western therefore endeavors to manage the DFA in a way that that supports and strengthens the local economy.

Opportunities available to strengthen the local economy are:

- outdoor activities and recreation opportunities (e.g., hiking, boating, camping, ATV)
- tourism
- hunting, fishing, and trapping activities;
- opportunities for ecotourism (e.g., bird-watching, wildlife viewing);
- special forest products; and
- non-timber forest products

Current Status & Interpretation

A summary of co-operative actions demonstrated with other forest dependent businesses, forest users, and the local community are as follows:

Year	Actions
2021	• Recreational trail access maintained during harvesting with alternate routes as required. See Indicator 5.2.5 • Opportunities for firewood cutting made available to the community. See Indicator 5.1.1 • Road access: Roads are maintained to a wilderness standard and available for back country recreational use. • Visual Impact Assessments (VIA) completed for all blocks in scenic viewscapes to manage for the visual experience of recreational users and lake cabin owners. • Operational Information Map (OIM) produced and available online WFP external website. See Indicator 6.1.3 • Opportunities for Biofuels. See Indicator 5.1.1 • Road and Safety communications was updated to a social media platform (Facebook, Twitter and website) and was updated on occasion throughout reporting year with industrial road information. • Field walks completed with Powell River Parks and Wilderness Society (PRPAWS) when harvesting and road building influences the Sunshine Coast Trail. See Indicator 5.2.5 • Donations provided to several local organizations and community groups. See Indicator 5.2.1. • Access provided to special forest products for local manufacturing. See Indicator 5.1.1. • Sold logs from the Dry Land Sort to local small mills. See Indicator 5.1.1
2020	• Management of the Powell Forest Canoe Route and other recreation sites with assistance from the Ministry of Forests Range and Natural Resource Operations (MFLNRO) – Rec Sites and Trails BC. • Recreational trail access maintained during harvesting with alternate routes as required. • Opportunities for firewood cutting made available to the community. • Road access: Roads are maintained to a wilderness standard and available for back country recreational use. • Visual Impact Assessments (VIA) completed for all blocks in scenic viewscapes to manage for the visual experience of recreational users and lake cabin owners. • Operational Information Map (OIM) produced and available online WFP external website. • Road and Safety communications was updated to a social media platform (Facebook, Twitter and website) and was updated on 15 occasions throughout 2020 with industrial road information. • Field walks completed with Powell River Parks and Wilderness Society (PRPAWS) when harvesting and road building influences the Sunshine Coast Trail. • Donations provided to several local organizations and community groups. • Access provided to special forest products for local manufacturing.

	• Sold logs from the Dry Land Sort to local small mills. **Also see Indicators:** • **5.1.1 Documentation of the diversity of timber and non-timber resources, including products and services produced in the DFA** • **5.2.1 Level of participation and support in initiatives that contribute to community sustainability** • **5.2.4 CAG is informed of corporate policy, program changes, and initiatives in a timely manner** • **5.2.5, The % of reviews or field walks completed where harvesting is planned consistent with the approved Management Principles along the Sunshine Coast Trail** • **Evidence of efforts to promote capacity development and meaningful participation in general** • **6.1.3. Availability of summary information on issues of concern to the public**
2019	• Management of the Powell Forest Canoe Route and other recreation sites with assistance from the Ministry of Forests Range and Natural Resource Operations (MFLNRO) – Rec Sites and Trails BC. • Recreational trail access maintained during harvesting with alternate routes as required. • Opportunities for firewood cutting made available to the community. • Road access: Roads are maintained to a wilderness standard and available for back country recreational use. • Visual Impact Assessments (VIA) completed for all blocks in scenic viewscapes to manage for the visual experience of recreational users and lake cabin owners. • Operational Information Map (OIM) produced and available online WFP external website. • Road and Safety communications was updated to a social media platform (Facebook, Twitter and website) and was updated on 10 occasions throughout 2019 with industrial road information. • Field walks completed with Powell River Parks and Wilderness Society (PRPAWS) when harvesting and road building influences the Sunshine Coast Trail. • Donations provided to several local organizations and community groups. • Local ATV group informed of trail access closures and transitions maintained and constructed. • Access provided to special forest products for local manufacturing. • Supported the creation of bio-fuels for the Catalyst Pulp Mill and for local electricity generation. • Sold logs from the Dry Land Sort to local small mills. **Also see Indicators:** • **5.1.1 Documentation of the diversity of timber and non-timber resources, including products and services produced in the DFA** • **5.2.1 Level of participation and support in initiatives that contribute to community sustainability**

	• **5.2.4 CAG is informed of corporate policy, program changes, and initiatives in a timely manner** • **5.2.5, The % of reviews or field walks completed where harvesting is planned consistent with the approved Management Principles along the Sunshine Coast Trail** • **Evidence of efforts to promote capacity development and meaningful participation in general** • **6.1.3. Availability of summary information on issues of concern to the public**
2018	• Management of the Powell Forest Canoe Route and other recreation sites with assistance from the Ministry of Forests Range and Natural Resource Operations (MFLNRO) – Rec Sites and Trails BC. • Recreational trail access maintained during harvesting with alternate routes as required. • Opportunities for firewood cutting made available to the community. • Road access: Roads are maintained to a wilderness standard and available for back country recreational use. • Visual Impact Assessments (VIA) completed for all blocks in scenic viewscapes to manage for the visual experience of recreational users and lake cabin owners. • Operational Information Map (OIM) produced and available monthly on WFP external website. • Road and Safety communications was updated to a social media platform (Facebook, Twitter and website) and was updated on 16 occasions throughout 2018 with industrial road information. • Field walks completed with Powell River Parks and Wilderness Society (PRPAWS) when harvesting and road building influences the Sunshine Coast Trail. • Donations provided to several local organizations and community groups. • Local ATV group informed of trail access closures and transitions maintained and constructed. • Access provided to special forest products for local manufacturing. • Supported the creation of bio-fuels for the Catalyst Pulp Mill and for local electricity generation. • Sold logs from the Dry Land Sort to local small mills. **Also see Indicators:** **5.1.1 Documentation of the diversity of timber and non-timber resources, including products and services produced in the DFA** **5.2.1 Level of participation and support in initiatives that contribute to community sustainability** **5.2.4 CAG is informed of corporate policy, program changes, and initiatives in a timely manner** **5.2.5, The % of reviews or field walks completed where harvesting is planned consistent with the approved Management Principles along the Sunshine Coast Trail** **6.1.2 Evidence of efforts to promote capacity development and meaningful participation in general** **6.1.3. Availability of summary information on issues of concern to the public**

2017	• Management of the Powell Forest Canoe Route and other recreation sites with assistance from the Ministry of Forests Range and Natural Resource Operations (MFLNRO) – Rec Sites and Trails BC. • Recreational trail access maintained during harvesting with alternate routes as required. • Opportunities for firewood cutting made available to the community. • Road access: Roads are maintained to a wilderness standard and available for back country recreational use. • Visual Impact Assessments (VIA) completed for all blocks in scenic viewscapes to manage for the visual experience of recreational users and lake cabin owners. • Operational Information Map (OIM) produced and available monthly on WFP external website. • Road and Safety communications was updated to a social media platform (Facebook, Twitter and website) and was updated on 39 occasions throughout 2017 with industrial road information. • No complaints were received of logging equipment blocking access on roads during the weekend. • Field walks completed with Powell River Parks and Wilderness Society (PRPAWS) when harvesting and road building influences the Sunshine Coast Trail. • Donations provided to several local organizations and community groups. • Local ATV group informed of trail access closures and transitions maintained and constructed. • Access provided to special forest products for local manufacturing. • Supported the creation of bio-fuels for the Catalyst Pulp Mill and for local electricity generation. • Sold logs from the Dry Land Sort to local mills.
2016	• Management of the Powell Forest Canoe Route and other recreation sites with assistance from the Ministry of Forests Range and Natural Resource Operations (MFLNRO) – Rec Sites and Trails BC. • Trail access maintained during harvesting with alternate routes as required. • Opportunities for firewood cutting made available to the community. • Road access:1605 km of road available for back country recreational use. • Visual Impact Assessments (VIA) completed for all blocks in scenic viewscapes to manage for the visual experience of recreational users and lake cabin owners. • Operational Information Map (OIM) produced and available monthly. • Road hotline platform was updated to a social media platform (Facebook, Twitter and website) and was updated numerous times throughout 2016 with industrial road information. • No complaints were received of logging equipment blocking access on roads during the weekend. • Field walks completed with Powell River Parks and Wilderness Society (PRPAWS) when harvesting and road building influences the Sunshine Coast Trail. • Donations provided to several local organizations and community groups.

	• Local ATV group informed of trail access closures and transitions maintained and constructed. • Access provided to special forest products for local manufacturing. • Supported roadside debris being removed for bio-fuels and local electricity generation. • Sold logs to local mills.
2015	• Management of the Powell Forest Canoe Route and other recreation sites with assistance from the Ministry of Forests Range and Natural Resource Operations (MFLNRO) – Rec Sites and Trails BC. • Trail access maintained during harvesting with alternate routes as required. • Road access:1560 km of road available for back country recreational use. • Visual Impact Assessments (VIA) completed for all blocks in scenic viewscapes to manage for the visual experience of recreational users and lake cabin owners. • Provided digital data and financial assistance to Tourism Powell River to assist with development of a large scale map to be posted at Lang Bay Store. • Operational Information Map (OIM) produced and available monthly. • Road hotline platform was updated to a social media platform (Facebook, Twitter and website) and was updated numerous times throughout 2015 with industrial road information. • No complaints were received of logging equipment blocking access on roads during the weekend. • Field walks completed with Powell River Parks and Wilderness Society (PRPAWS) when harvesting and road building influences the Sunshine Coast Trail. • Donations provided to several local organizations and community groups. • Local ATV group informed of trail access closures and transitions maintained and constructed. • Access provided to special forest products for local manufacturing. • Supported roadside debris being removed for bio-fuels and local electricity generation. • Sold logs to local mills.
2014	• Management of the Powell Forest Canoe Route and other recreation sites with assistance from the Ministry of Forests Range and Natural Resource Operations (MFLNRO) – Rec Sites and Trails BC. • Trail access maintained during harvesting with alternate routes as required. • Road access:1521 km of road available for back country recreational use. • Visual Impact Assessments (VIA) completed for all blocks in scenic viewscapes to manage for the visual experience of recreational users and lake cabin owners. • Recreation maps produced and available at recreation and tourism outlets in town. • Provided digital data and financial assistance to Tourism Powell River to assist with development of a recreation map for the upper Sunshine Coast. • Operational Information Map (OIM) produced and available monthly. • Road hotline was updated 12 times in 2014 with industrial road information.

	• No complaints were received of logging equipment blocking access on roads during the weekend. • Field walks completed with Powell River Parks and Wilderness Society (PRPAWS) when harvesting and road building influences the Sunshine Coast Trail. • Donations provided to several local organizations and community groups. • Local ATV group informed of trail access closures and transitions maintained and constructed. • Access provided to special forest products for local manufacturing. • Supported roadside debris being removed for bio-fuels and local electricity generation. • Sold logs to local mills. • Enabled a staff member to participate as a community volunteer with Regional District as a member of the Parks and Greenspace Plan.
2013	• Management of the Powell Forest Canoe Route and other recreation sites with assistance from the Ministry of Forests Range and Natural Resource Operations (MFLNRO). • Alternate access provided for trails during harvesting. • 1481 km of road available for back country recreational use. • Visual Impact Assessments (VIA) completed for all blocks in scenic viewscapes to manage for the visual experience of recreational users and lake cabin owners. • Recreation maps produced and available at recreation and tourism outlets in town. • Operational Information Map (OIM) produced and available monthly. • Road hotline was updated 22 times in 2013 with industrial road information. • No complaints were received of logging equipment blocking access on roads during the weekend. • Field walks completed with Powell River Parks and Wilderness Society (PRPAWS) when harvesting and road building influences the Sunshine Coast Trail. • Donations provided to several local organizations and community groups. • Local ATV group informed of trail access closures and transitions maintained and constructed. • Access provided to special forest products for local manufacturing. • Supported roadside debris being removed for bio-fuels and local electricity generation. • Sold logs to local mills. • Provided digital data to Tourism Powell River to assist with development of a recreation map for the upper Sunshine Coast.
2012	• Management of the Powell Forest Canoe Route and other recreation sites with assistance from the Ministry of Forests Range and Natural Resource Operations (MFLNRO). • Alternate access provided for trails during harvesting. • 1440 km of road available for back country recreational use. • Visual Impact Assessments (VIA) completed for all blocks in scenic viewscapes to manage for the visual experience of recreational users and lake cabin owners. • Recreation maps produced and available at recreation and tourism outlets in town.

	• Operational Information Map (OIM) produced and available monthly. • Road hotline was updated 16 times in 2012 with industrial road information. • No complaints were received of logging equipment blocking access on roads during the weekend. • Field walks completed with Powell River parks and Wilderness Society (PRPAWS) when harvesting and road building influences the Sunshine Coast Trail. • Donations provided to several local organizations and community groups. • Local ATV group informed of trail access closures. • Access provided to special forest products for local manufacturing. • Supported roadside debris being removed for bio-fuels and local electricity generation. • Sold logs to local mills.
2011	• Management of the Powell Forest Canoe Route and other recreation sites with assistance from the Ministry of Natural Resource Operations (MFLNROD). • Alternate access provided for trails during harvesting. • 1137 km of road available for back country recreational use. • Visual Impact Assessments (VIA) completed for all blocks in scenic viewscapes to manage for the visual experience of recreational users and lake cabin owners. • Recreation maps produced and available at recreation and tourism outlets in town. • Operational Information Map (OIM) produced and available monthly. • Road hotline was updated 20 times in 2011 with industrial road information. • No complaints were received of logging equipment blocking access on roads during the weekend. • Field walks completed with Powell River parks and Wilderness Society (PRPAWS) when harvesting and road building influences the Sunshine Coast Trail. • Donations provided to several local organizations and community groups. • Local ATV group informed of trail access closures. • Access provided to special forest products for local manufacturing. • Supported roadside debris being removed for bio-fuels and local electricity generation. • Sold logs to local mills. • Rock provided for shoreline stabilization work at the Lois Lake Recreation Site. • Facilitated the use of WFP haul roads for the construction work at the Haywire Bay campsite.
2010	• Management of the Powell Forest Canoe Route and other recreation sites with assistance from the Ministry of Natural Resource Operations (MFLNROD). • Alternate access provided for trails during harvesting. • 1127 km of road available for back country recreational use. • Visual Impact Assessments (VIA) completed for all blocks in scenic viewscapes to manage for the visual experience of recreational users and lake cabin owners. • Recreation maps produced and available at recreation and tourism outlets in town.

	• Attended Outdoor Recreation User Group (ORUG) meetings and assisted in facilitating a plan for Goat 2 recreation access. • Operational Information Map (OIM) produced and available monthly. • Road hotline was updated 12 times in 2010 with industrial road information. • No complaints were received of logging equipment blocking access on roads during the weekend. • Field walks completed with Powell River parks and Wilderness Society (PRPAWS) when harvesting and road building influences the Sunshine Coast Trail. • Donations provided to several local organizations and community groups. • Local ATV group informed of trail access closures. • Access provided to special forest products for local manufacturing. • Supported roadside debris being removed for bio-fuels and local electricity generation. • Sold logs to local mills. • Worked with MFLNROD to explore firewood cutting opportunities for local businesses.

Performance

2021: SFO met the target for 2021.

2020: SFO met the target for 2020.

2019: SFO met the target for 2019.

2018: SFO met the target for 2018.

2017: SFO met the target for 2017.

2016: SFO met the target for 2016

2015: SFO met the target for 2015.

2014: SFO met the target for 2014.

2013: SFO met the target for 2013.

2012: SFO met the target for 2012.

2011: SFO met the target for 2011.

2010: SFO met the target for 2010. A range of co-operative actions were demonstrated in 2010 by Western to strengthen and diversify the local economy.

Strategies & Implementation

There are a range of strategies to support local forest-dependent businesses, forest users, and the local community to strengthen and diversify the local economy.

A significant aspect of this strategy is to support the local recreational opportunities that exist which provides for tourism opportunities that can directly and indirectly support local businesses. A summary of these items includes:

- Supplying recreation maps for the DFA showing the road network, trail network, and recreation sites.
- Maintaining a Road Hotline which provides current road information to assist recreational access and safety.

- Completing field walks with PRPAWS when harvesting and road building influences the Sunshine Coast Trail.
- Monthly communication is completed with PRPAWS to keep them informed of proposed harvesting or road building activities along the Sunshine Coast Trail.
- Managing the Powell Forest Canoe Route and other recreation sites with assistance from the Ministry of Forests, Lands, and Natural Resource Operations.
- Assisting local recreation groups and organizations with in-kind projects and expertise.
- Completing major road projects to maintain access for recreational opportunities.
- Communicating and informing local recreation groups of safety related access information.

Another primary strategy is to make fiber available locally thereby providing for local employment with small manufacturers:

- Roadside debris is made available for bio fuels.
- Exploring opportunities for firewood cutting for local businesses in addition to the free firewood opportunities for household use.
- Selling logs locally to small specialty mills.

Forecasts

Western is a key contributor to the local community and continues to maintain a good relationship with other groups. This co-operation is expected to continue with the local community, businesses, and forest users.

Details/Data Set

Correspondence with the numerous forest user groups, businesses', and the local community organizations are maintained by the TFL Forester in the central filing system.

Monitoring

The TFL Forester reports on indicator performance in the annual SFM report.

Indicator 7.1.1 Evidence of good understanding of the nature of Aboriginal title and rights

Element: 7.1 Aboriginal and treaty rights *Recognize and respect Aboriginal title and rights, and treaty rights. Understand and comply with current legal requirements related to Aboriginal title and rights, and treaty rights.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Aboriginal title and rights Aboriginal title and rights, and treaty rights.	Understand and remain current on evolving aboriginal title and rights, and treaty rights relating to the DFA.	**7.1.1** Evidence of good understanding of the nature of Aboriginal title and rights.	All planning staff has training relating to aboriginal title and rights, and treaty rights for First Nations relating to the DFA.	None

History

This was a core Indicator in 2010, and then continued under the Z809-16 CSA Standard

Previous Indicator 6.1.1 has been revised to reflect the requirements of the core Indicator 7.1.1 under the Z809-16 CSA Standard

Justification

Aboriginal title and rights, and treaty rights are complex and continue to evolve. Forest planners maintain their competency in the areas in which they practice. An awareness of information relating to aboriginal title and rights, and treaty rights for First Nations is one aspect.

Current Status & Interpretation

The Current status of training relating to aboriginal title and rights is as follows:

Training	Date Completed	Comments
First Nations Reconciliation Training	February 2021	ABCFP virtual AGM. Presentation completed by Gary Merkel, Clifford White, and Jeremy Schelford.
Traditional Use Study Reconnaissance Surveys Archaeological Impact Assessments Face to face meetings to obtain a better understanding of First Nations rights and title.	Ongoing	Planning staff participate in and review Traditional Use Study (TUS) Reconnaissance surveys and Preliminary Field Reconnaissance surveys (PFRs) and incorporate findings into harvest plans on an ongoing basis. The following staff participated in First Nations walk through surveys: Cody Schedel, Darwyn Koch, Kevin Giles, Jamie Kelly, and Geoff Matheson.
Indigenous Relationships in the Current Legal Context.	Feburary 20, 2019	Planning staff attended a 2-day Planning AGM in Port Alberni. Robert Dennis presented his perspective on the recent Huu-ay-aht First Nation and WFP Limited Partnership. Geoff Plant presented information related to UNDRIP and the current Indigenous Relationship legal context.
First Nations Presentation to CAG	September 12, 2016	Mark Sloan, First Nations Advisor FLNRO, completed a 1 hour presentation on the current status of Tla'amin and Sechelt First Nations relative to Treaty and Government to Government Negotiations. Refer to the meeting minutes from September 12th on the CAG website.
First Nations Law	March 13, 2015	Planning staff attended a First Nations Law training session in Campbell River led by Geoff Plant.
Information provided to WFP planners in follow-up to the Tsilhqot'in decision.	November 6, 2014	Planning staff kept current with latest information as it continues to evolve.
Traditional Use Study Reconnaissance Surveys and Archaeological Impact Assessments	Ongoing	Planning staff participate in and review Traditional Use Study (TUS) Reconnaissance surveys and Preliminary Field Reconnaissance surveys (PFRs) and incorporate findings into harvest plans on an ongoing basis.
Presentation at CAG meeting by Tla'amin First Nation	December 11, 2013	Chief Councillor Clint Williams attended the CAG meeting on December 11, 2013 and shared a wide range of information relating to the current events and initiatives of the Tla'amin First Nation.

First Nations Law	July 5, 2013	TFL Forester and Manager attended a First Nations law training session in Nanaimo led by Geoff Plant.
First Nations Law	June 23, 2011	Planning staff attended a training session regarding the current status of First Nations law in BC.
MFLNROD – First Nations Consultation Training	November 30, 2010	Planning staff attended training from MFLNROD regarding consultation requirements and process
Overview of Aboriginal Law and Recent Cases that affect WFP	February 25, 2009	TFL Forester attended training session and reviewed learning's with all of the Planning staff.
FSP Information Sharing	2007	Planning staff reviewed FSP information sharing documentation

Performance

2021: SFO met the target for 2021. Discussions and field walks with First Nations continued in 2021 which helps facilitate good relationships and ongoing communication.

2020: SFO met the target for 2020. Discussions and field walks with First Nations continued in 2020 which helps facilitate good relationships and ongoing communication. Formal First Nations training is planned for 2021.

2019: SFO met the target for 2019. Discussions and field walks with First Nations continued in 2019 which helps facilitate good relationships and ongoing communication. Early in 2019 SFO planners obtained First Nations Rights and Title training at the annual Planners Meeting.

2018: SFO met the target for 2018. Discussions and field walks with First Nations continued in 2018 which helps facilitate good relationships and ongoing communication. Early in 2019 SFO planners obtained First Nations Rights and Title training at the annual Planners Meeting.

2017: SFO met the target for 2017. Discussions and field walks with First Nations continued in 2017 which helps facilitate good relationships and ongoing communication. WFP participated in all stages of the Tla'amin's Reconciliation Journey.

2016: SFO met the target for 2016. First Nations awareness presentation to the CAG by Mark Sloan of FLNRO.

2015: SFO met the target for 2015. A training session that included that latest updates relating to First Nations law was attended by planning staff.

2014: SFO met the target for 2014. Meetings, discussions and field walks with First Nations continued in 2014 which helps facilitate good relationships and ongoing communication. Information provided regarding the Tsilhqot'in decision as understanding of it continued to evolve.

2013: SFO met the target for 2013. Discussions and field walks with First Nations continued in 2013 which helps facilitate good relationships and ongoing communication. Training was completed in Nanaimo which provided an up to date look at First Nations law and effective relationships.

2012: SFO met the target for 2012. Discussions and field walks with First Nations continued in 2012 which helps facilitate good relationships and ongoing communication.

2011: SFO met the target for 2011. All planning staff attended training in 2011 providing them with the most up to date information regarding First Nations law in BC.

2010: SFO met the target for 2010.

Strategies & Implementation

Training of employees occurs over a period of time and through a number of different means. A summary of these strategies and how they are implemented is as follows:

- Training Courses
- Information sharing – ongoing information sharing during plan development and activities can provide current information

Forecasts

Continue to facilitate training and awareness with regards to aboriginal title and rights. This is a dynamic issue that can be affected by changed legislation and evolving case law. Training and awareness must keep pace and thus this indicator is not forecast to change.

Details/Data Set

Completed training is tracked in the INTRAC training system and Traditional Use Study Reconnaissance Surveys and Archaeological Impact Assessments are filed in the assessment binders.

Monitoring

The Operations Administrator updates the INTRAC training system and files the completed assessments. The TFL Forester reports on the indicator performance in the annual SFM report.

Indicator 7.1.2 Evidence of ongoing open and respectful communications with Aboriginal communities to foster meaningful engagement, and consideration of the information gained about their Aboriginal title and rights through this process. Where there is communicated disagreement regarding the organization's forest management activities, this evidence would include documentation of efforts towards conflict resolution

Element: 7.1 Aboriginal and Treaty Rights *Recognize and respect Aboriginal title and rights, and treaty rights. Understand and comply with current legal requirements related to Aboriginal title and rights, and treaty rights.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Meaningful Engagement with First Nations	Understand and Respect Aboriginal and Treaty Rights	**7.1.2** Evidence of ongoing open and respectful communications with Aboriginal communities to foster meaningful engagement, and consideration of the information gained about their Aboriginal title and rights through this process. Where there is communicated disagreement regarding the organization's forest management activities, this evidence would include documentation of efforts towards conflict resolution.	# of documented opportunities provided to local First Nations for review of Forestry plans: 100% of FSPs, FSP cutblocks, and Management Plans (MPs) are accessible for review by local affected First Nations. 100% of cutblocks are referred to First Nations or a rationale is provided. 100% of resolution attempts are documented.	none

History

This is a new Core Indicator under the Z809-16 CSA Standard.

February 9, 2022 CAG Meeting: The Indicator Statement has been revised to reflect formal written communications rather than all types of communications. Forest Authorizations, Strategic Plans, Forest Stewardship Plans, etc will be Information Shared with First Nations and documented in this indicator. This will allow for a more reliable and auditable reporting of information to satisfy this indicator.

Justification

There are several plans prepared in the forest planning process. These plans range from legally required plans to voluntary plans that are prepared to facilitate communication and information sharing. Information sharing with First Nations supports CSA SFM principles, Government policy and consultation processes, and planning information as outlined in the Forest Stewardship Plan for the DFA. The target and variance therefore require that all Forest Stewardship Plans, Management Plans, and the voluntary Operational Information Map are shared with First Nations.

Within the DFA, there are 3 First Nations whose Tradditional Territotories overlap; Tla'amin First Nation, shishalh First Nation, and Klahoose First Nation.

This indicator will be measured as follows:

1. Document the number of formal written communications annually.

2. Open and Respectful communication: WFP must be able to document each communication and be able to demonstrate that they were open and respectful communication to the First Nation.

3. Communicated Disagreement: Of the total number of communications how many of them resulted in a disagreement that was communicated to WFP? WFP will need to document the basis of the disagreement. The goal would be to not have documented disagreements but that is not always possible.

4. Efforts to reach a resolution are documented: Of the total number of documented disagreement communications, how many of them had documented attempts to meet a resolution.

Current Status & Interpretation

Year	Referral Package, Management Plan, FSP, etc.	First Nation	Significant Disagreement or Difference of Opinion?	Attempts to resolve the issue is documented
2021	Cutting Permits 21B, 21C	Tla'amin	No	N/A
	Cutting Permits 21A, 21D, 21E, 21F, and 21H	Shishalh & Tla'amin	No	N/A
	Road Permit R01000 Amendments 21-02, 21-05, 21-06	Tla'amin	No	N/A
	Road Permit R01000 Amendments 20-05, 20-06, 21-01, 21-03, 21-04	Shishalh & Tla'amin	No	N/A
	Road Permit R00036 Amendments 21-01	Tla'amin	No	N/A
	Information Sharing and TUS for cutblocks and roads 2021-01, 02, 03, 04, 05, 06, 07, 08, 09, 10	Tla'amin	No	N/A
	Information Sharing and PAFR for cutblocks and roads 2021-01, 02, 03, 04, 05	Shishalh	No	N/A
	Annual letter to the First Nation	Tla'amin	No	N/A
	Annual letter to the First Nation	Shishalh	No	N/A
	Annual letter to the First Nation	Klahoose	No	N/A

Performance

2021: SFO met the target for this indicator.

2020: 2 targets were met, and 1 variance was met for 2020. In 2020 the total number of communications were separated into logical communication threads (10) for individual First Nations (3). This allows for reporting by topic rather than by the number of communications. In 2020 there was 1 communication thread where significant disagreements existed. Attempts to resolve the significant disagreement was documented, and this was resolved in early 2021.

2019: 2 targets were met, and 1 variance was met for 2019. In 2019 the total number of communications were separated into logical communication threads (13) for individual First Nations (3). This allows for reporting by topic rather than by the number of communications, although the number of communications is also documented for reference. In 2019 there was 1 communication threads where significant disagreements existed. Attempts to resolve the significant disagreement was documented.

2018: SFO met the targets for 2018. The documented disagreements are related to the shishalh shared decision-making process and information requests. In all cases WFP provided the site-specific information.

2017: SFO met the targets for 2017.

2016: SFO met the targets for 2016.

Strategies & Implementation

Western will document and detail all formal written communications annually. This indicator will only focus on 2-way communications.

Western will also document whether or not there was significant disagreement in any of the communications. For the purpose of this Indicator, significant means, "***a stalemate is reached in two-way communication based on differing opinions on a particular topic of discussion***". Where there is a significant disagreement, Western will document any attempts to resolve the conflict or issue.

Forecasts

As this is a new indicator for 2017, targets and variances will be monitored and changed if required based on performance.

Details/Data Set

The TFL Forester is responsible for documenting all formal written communications with First Nations.

Monitoring

The TFL Forester reports on indicator performance in the annual SFM report.

Indicator 7.2.1 Evidence of efforts to promote capacity development and meaningful participation for Aborginal individuals, communities, and forest based companies.

Element: 7.2 Respect for Aboriginal forest values, knowledge, and uses. *Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Aboriginal economic opportunities.	Aboriginal economic opportunities are available in and around the DFA.	**7.2.1** Evidence of efforts to promote capacity development and meaningful participation for Aboriginal individuals, communities, and forest based companies.	Document the efforts to promote capacity and have meaningful participation for First Nations.	None

History

This was a new core indicator in 2010, and then continued under the Z809-16 CSA Standard.

Previous Indicators 6.4.3, 5.2.4, and 6.1.2 have been revised to reflect the requirements of the core Indicator 7.2.1 under the Z809-16 CSA Standard.

Justification

Participation of all interested groups in the forest management process is a desirable and important part of sustainable forest management. A target with no variance has therefore been established to demonstrate the participation of First Nations in the forest management process.

Current Status & Interpretationschedule

First Nation participation in the forest management process includes meetings, field visits, communications, and presentations of relevance to the DFA. A summary from efforts in 2009 and 2010 is summarized in the following table.

Year	Participation efforts
2021	In addition to the activities outlined in 2009/2010 below: • Continue to extend opportunities to work together and explore mutually beneficial relationships. • Tla'amin and Western announcement of building a Tla'amin lead Integrated Resource Management Plan for the TFL. • Utilizing Tla'amin First Nation on Forestry Vegetation Management contract opportunities for 2021 field season. • WFP entered into a contract agreement with the Tla'amin Nation for TUS surveys. • WFP entered into a contract agreement with the Sechelt First Nation for PAFRs and AIAs.
2020	In addition to the activities outlined in 2009/2010 below: • Continue to extend opportunities to work together and explore mutually beneficial relationships.

	• Invitations to meet with Tla'Amin, Sechelt, and Klahoose First Nations to review the 2020-2025 Pest Management Plan. Due to COVID-19, meetings with these First Nations was not possible. Information requests were addressed. • Utilizing Tla'amin First Nation on Forestry Vegetation Management contract opportunities for 2020 field season ($161,087.81). • WFP entered into a contract agreement with the Tla'amin Nation $9,038.99 for TUS surveys. • WFP entered into a contract agreement with the Sechelt First Nation $26,555.20 for PAFRs and AIA.
2019	In addition to the activities outlined in 2009/2010 below: • Continue to extend opportunities to work together and explore mutually beneficial relationships. • 2 Colocation meetings with Klahoose and Tla'Amin First Nations. • Utilizing Tla'amin First Nation on Forestry Vegetation Management contract opportunities for 2018 field season ($113,408). • WFP entered into a contract agreement with the Tla'amin Nation $10,687.94 for TUS surveys. • WFP entered into a contract agreement with the Sechelt First Nation $41,256.41 for PAFRs and AIA. • WFP entered into a contract agreement with the Klahoose First Nation $1,158.65 for TUS surveys.
2018	In addition to the activities outlined in 2009/2010 below: • Continue to extend opportunities to work together and explore mutually beneficial relationships. 2 meetings were held with shishalh First Nation in attempts to work on a protocol and information sharing agreement. • Utilizing Tla'amin First Nation on Forestry Vegetation Management contract opportunities for 2018 field season ($114,346). • WFP entered into a contract agreement with the Tla'amin Nation $3.899 for TUS surveys. • WFP entered into a contract agreement with the Sechelt First Nation $34,424 for PAFRs and AIA.
2017	In addition to the activities outlined in 2009/2010 below: • Continue to extend opportunities to work together and explore mutually beneficial relationships. • Additional information sharing and correspondence was completed with Tla'amin and Sechelt, First Nations in 2017 in regards to the Replacement Forest Stewardship Plan. • Utilizing Tla'amin First Nation on Forestry contract opportunities for 2017 field season ($30,899). • WFP entered into a contract agreement with the Tla'amin Nation $11,175 for TUS surveys. • WFP entered into a contract agreement with the Sechelt First Nation $39,364 for PAFRs.
2016	In addition to the activities outlined in 2009/2010 below: • Continue to extend opportunities to work together and explore mutually beneficial relationships. • Additional information sharing and correspondence was completed with Tla'amin and Sechelt, First Nations in 2016 in regards to the Forest Stewardship Plan. • Preliminary discussions with Tla'amin First Nation on Forestry contract opportunities for 2017 field season.
2015	In addition to the activities outlined in 2009/2010 below: • Continue to extend opportunities to work together and explore mutually beneficial relationships.

2014	In addition to the activities outlined in 2009/2010 below: • Additional information sharing and correspondence was completed with Tla'amin and Sechelt, First Nations in 2014 in regards to the Management Plan #9 package. • Regular discussions are ongoing regarding forestry operations • Discussed management of OGMA's. • Invitation extended to participate in 2014 CSA audits.
2013	In addition to the activities outlined in 2009/2010 below: • Additional information sharing and correspondence was completed with Tla'amin and Sechelt, First Nations in 2014 in regards to the Management Plan #9 package. • Discussions relating to opportunities. • Logger training program – opportunity for suitable candidate. • Legal boundaries established co-operatively.
2013	In addition to the activities outlined in 2009/2010 below: • Information sharing was completed with Tla'amin, Sechelt, and Klahoose First Nations in 2013 in regards to the Management Plan #9 package. • Discussions relating to opportunities. • Logger training program – opportunity for suitable candidate. • Legal boundaries established co-operatively.
2012	In addition to the activities outlined in 2009/2010 below: • Information sharing was completed with Tla'amin, Sechelt, and Klahoose First Nations in 2012 in regards to the draft Management Plan #9 information package. • Assisted the Tla'amin GIS department with the use of showing information on Google earth.
2011	In addition to the activities outlined in 2009/2010 below: • Information sharing completed with Tla'amin, Sechelt, and Klahoose First Nations in 2011 in regards to the Forest Stewardship Plan (FSP) extension.
2009/2010	• Operational Information Maps were provided monthly to the Tla'amin and Sechelt First Nations. • Annual Information sharing correspondence with the Klahoose First Nation. • Traditional Use Study (TUS) Reconnaissance surveys of harvest areas continue with the Tla'amin First Nation. • Preliminary Field Reconnaissance surveys (PFRs) continue with the Sechelt First Nation • The Tla'amin and Sechelt FN were informed of FIA projects being completed in 2010. • Notice of herbicide "Intent to Treat" information provided to solicit input and information. • The CAG invited the Tla'amin and Sechelt FN to participate in the CAG process. • CAG agendas and meeting minutes were provided to the Tla'amin and Sechelt FN on an ongoing basis.

Performance

2021: SFO met the target for 2021.

2020: SFO met the target for 2020.

2019: SFO met the target for 2019.

2018: SFO met the target for 2018.

2017: SFO met the target for 2017. In 2018 we will continue to work with and help develop the capacity of Tla'amin's Forestry contractor.

2016: SFO met the target for 2016.

2015: SFO met the target for 2015.

2014: SFO met the target for 2014.

2013: SFO met the target for 2013.

2012: SFO met the target for 2012.

2011: SFO met the target for 2011.

2010: SFO met the target for 2010.

Strategies & Implementation

First Nations participation in forest management is implemented and facilitated on an ongoing basis through a number of strategies including:

- meetings and field walks
- operational information map (OIM) and summary
- information sharing on FIA and other projects
- information sharing on Operational Plans
- sending of CAG agendas and minutes
- invitations to participate in the CSA process
- invitations to meet with the CSA auditors

Forecasts

Based on experience and current management commitment, Western will continue to make efforts to facilitate First Nations participation in forest management.

Details/Data set

Correspondence with First Nations is maintained by the TFL Forester in the central filing system. This information will be reviewed and summarized to report on the indicator status.

Monitoring

The TFL Forester reports on indicator performance in the annual SFM report.

Indicator 7.2.2 Evidence of understanding and use of Aboriginal knowledge through the engagement of willing Aboriginal communities, using a process that identifies and manages culturally important resources and values

Element: 7.2 Respect for Aboriginal forest values, knowledge and uses *Respect traditional Aboriginal forest values, knowledge and uses as identified through the Aboriginal input process.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Culturally important resources and values.	Identify culturally important resources and values.	**7.2.2** Evidence of understanding and use of Aboriginal knowledge through the engagement of willing Aboriginal communities, using a process that identifies and manages culturally important resources and values.	Field walks are completed with First Nations of all areas harvested annually where deemed necessary by Western and the First Nation.	None

History

This was a core indicator in 2010, and then is continued under the Z809-16 CSA Standard.

Previous Indicator 6.2.1 has been revised to reflect the requirements of the core Indicator 7.2.2 under the Z809-16 CSA Standard.

Justification

During the development of operational plans, First Nations are contacted, and arrangements are made to complete field walks of planned harvest areas where it is determined to be appropriate by Western and the First Nation. This enables Western to utilize First Nation knowledge to identify archaeological features that may exist during plan development. Field walks completed by the Tla'amin First Nation are referred to as a Traditional Use Study (TUS) Reconnaissance surveys and field walks completed by the Sechelt First Nation are referred to as a Preliminary Field Reconnaissance (PFR).

Current Status & Interpretation

The completion of field walks is summarized in the following table which outlines the number of areas harvested in the year where field walks were completed.

Year	Blocks Harvested	Number of TUS completed with the Tla'amin First Nation	Blocks Harvested	Number of PFR completed with the Sechelt First Nation
2021	34	34	8	8
2020	25	25	15	15
2019	16	16	8	8
2018	29	29	12	12
2017	29	29	8	8
2016	29	29	13	13
2015	23	23	9	9
2014	46	46	11	11
2013	31	31	8	8
2012	24	24	5	5
2011	27	27	7	7
2010	29	29	12	12

Performance

2021: SFO met the target for 2021. All the blocks harvested in 2021 had either a TUS or PAFR completed prior to harvesting utilizing the expertise of the Tla'amin and Shishalh First Nations. Where overlap areas exist between the 2 First Nations both TUS and PAFRs were completed.

2020: SFO met the target for 2020. All the blocks harvested in 2020 had either a TUS or PAFR completed prior to harvesting utilizing the expertise of the Tla'amin and Shishalh First Nations. Where overlap areas exist between the 2 First Nations both TUS and PAFRs were completed.

2019: SFO met the target for 2019. All the blocks harvested in 2019 had either a TUS or PAFR completed prior to harvesting utilizing the expertise of the Tla'amin and Shishalh First Nations. Where overlap areas exist between the 2 First Nations both TUS and PAFRs were completed.

2018: SFO met the target for 2018. All of the blocks harvested in 2018 had either a TUS or PAFR completed prior to harvesting utilizing the expertise of the Tla'amin and Shishalh First Nations. Where overlap areas exist between the 2 First Nations both TUS and PAFRs were completed.

2017: SFO met the target for 2017. All of the blocks harvested in 2017 had either a TUS or PFR completed prior to harvesting utilizing the expertise of the Tla'amin and Sechelt First Nations. Where overlap areas exist between the 2 First Nations both TUS and PAFRs were completed.

2016: SFO met the target for 2016. All of the blocks harvested in 2016 had either a TUS or PFR completed prior to harvesting utilizing the expertise of the Tla'amin and Sechelt First Nations.

2015: SFO met the target for 2015**.** All of the blocks harvested in 2015 had either a TUS or PFR completed prior to harvesting utilizing the expertise of the Tla'amin and Sechelt First Nations.

2014: SFO met the target for 2014**.** All of the blocks harvested in 2014 had either a TUS or PFR completed prior to harvesting utilizing the expertise of the Tla'amin and Sechelt First Nations.

2013: SFO met the target for 2013**.** All of the blocks harvested in 2013 had either a TUS or PFR completed prior to harvesting utilizing the expertise of the Tla'amin and Sechelt First Nations.

2012: SFO met the target for 2012**.** All of the blocks harvested in 2012 had either a TUS or PFR completed prior to harvesting utilizing the expertise of the Tla'amin and Sechelt First Nations.

2011: SFO met the target for 2011**.** All of the blocks harvested in 2011 had either a TUS or PFR completed prior to harvesting utilizing the expertise of the Tla'amin and Sechelt First Nations.

2010: SFO met the target for 2010**.** All of the blocks harvested in 2010 had either a TUS or PFR completed prior to harvesting utilizing the expertise of the Tla'amin and Sechelt First Nations.

Strategies & Implementation

Western ensures that the Tla'amin and Sechelt First Nations are kept current on proposed harvest and road building plans early in the planning process through the Operational Information Map. This communication then leads to the arrangement of field walks to look for archaeological features with the First Nations during the development of harvest plans.

Forecasts

Western is committed to managing for archaeological features and the current process of working with the Tla'amin and Sechelt First Nations to identify archaeological features has been in place for a number of years, is working well and, and is therefore expected to continue.

Details/Data Set

The indicator results are verified by comparing the list of blocks logged in a year with the list of Traditional Use Study (TUS) Reconnaissance surveys and Archaeological Impact Assessment (AIA) Reconnaissance surveys completed for that list of blocks. Copies of all the assessments are retained within the assessment binders.

Blocks to field walk are decided on jointly between WFP and the Tla'amin and Sechelt First Nations which is currently very close to 100% of all areas harvested.

Monitoring

The TFL Forester reports on the indicator performance in the annual SFM report.

Indicator 7.2.3 Level of management and/or protection of areas where culturally important practices and activities occur

Element: 7.2 Respect for Aboriginal forest values, knowledge, and uses. *Recognize and respect Aboriginal title and rights, and treaty rights. Understand and comply with current legal requirements related to Aboriginal title and rights, and treaty rights.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Culturally important practices and activities.	To manage for culturally important practices and activities.	**7.2.3** Level of management and/or protection of areas where culturally important practices and activities occur.	Annually request current information regarding potentially affected cultural heritage resources from First Nations and the Ministry of Forests, Lands, and Natural Resource Operations.	None

History

This was a new core indicator in 2010, and then is continued under the Z809-16 CSA Standard.

Previous Indicator 6.1.3 has been revised to reflect the requirements of the core Indicator 7.2.3 under the Z809-16 CSA Standard.

Justification

In order to ensure that Western identifies and manages culturally important resources and values, Western requests information regarding potentially affected cultural heritage resources from First Nations and the Ministry of Forests, Lands, and Natural Resource Operations. The target and variance reflect the requirements outlined in the Forest Stewardship Plan covering the DFA for information gathering and sharing in order to manage culturally important resources and values.

Current Status & Interpretation

The requests for information regarding cultural heritage resources are summarized in the following table.

Year	Information requested regarding potentially affected cultural heritage resources	New potentially affected cultural heritage resources identified
2021	Letters sent in January 2021 to: - Tla'amin First Nation - Sechelt First Nation - Klahoose First Nation Ministry of Forests, Lands, and Natural Resource Operations	None
2020	Letters sent in January 2020 to: - Tla'amin First Nation - Sechelt First Nation - Klahoose First Nation Ministry of Forests, Lands, and Natural Resource Operations	None
2019	Letters sent in February 2019 to: - Tla'amin First Nation - Sechelt First Nation - Klahoose First Nation	None

	Ministry of Forests, Lands, and Natural Resource Operations	
2018	Letters sent in April 2018 to: - Tla'amin First Nation - Sechelt First Nation - Klahoose First Nation Ministry of Forests, Lands, and Natural Resource Operations	None
2017	Letters sent in January 2017 to: - Tla'amin First Nation - Sechelt First Nation - Klahoose First Nation Ministry of Forests, Lands, and Natural Resource Operations	None
2016	Letters sent in January 2016 to: - Tla'amin First Nation - Sechelt First Nation - Klahoose First Nation Ministry of Forests, Lands, and Natural Resource Operations	None
2015	Letters sent in January 2015 to: - Tla'amin First Nation - Sechelt First Nation - Klahoose First Nation - Ministry of Forests, Lands, and Natural Resource Operations	None
2014	Letters sent in January 2013 to: - Tla'amin First Nation - Sechelt First Nation - Klahoose First Nation - Ministry of Forests, Lands, and Natural Resource Operations	None
2013	Letters sent in January 2013 to: - Tla'amin First Nation - Sechelt First Nation - Klahoose First Nation - Ministry of Forests, Lands, and Natural Resource Operations	None
2012	Letters sent in January 2012 to: - Tla'amin First Nation - Sechelt First Nation - Klahoose First Nation - Ministry of Forests, Range, and Natural Resource Operations	None
2011	Letters sent in January 2011 to: - Tla'amin First Nation - Sechelt First Nation - Klahoose First Nation - Ministry of Forests and Range	None

2010	Letters sent in February 2010 to: - Tla'amin First Nation - Sechelt First Nation - Klahoose First Nation - Ministry of Forests and Range	None

Performance

2021: SFO met the target for 2021.

2020: SFO met the target for 2020.

2019: SFO met the target for 2019.

2018: SFO met the target for 2018.

2017: SFO met the target for 2017.

2016: SFO met the target for 2016.

2015: SFO met the target for 2015.

2014: SFO met the target for 2014.

2013: SFO met the target for 2013.

2012: SFO met the target for 2012.

2011: SFO met the target for 2011.

2010: SFO met the target for 2010.

Strategies & Implementation

The Forest Stewardship Plans (FSP) outlines Westerns commitment for information gathering and sharing in paragraph 4.5.3. As outlined in the FSP, an opportunity is also provided annually to First Nations and the Ministry of Forests, Lands, and Natural Resource Operations to identify any additional information regarding potentially affected cultural heritage resources in the DFA.

Forecasts

The approved Forest Stewardship Plan outlines the requirements for information gathering and sharing in paragraph 4.5.3. This Forest Stewardship Plan is a legally required plan that must be approved prior to harvesting. In accordance with the Forest Stewardship Plan requirements, information gathering and sharing will continue to occur.

Details/Data Set

The TFL Forester is responsible for maintaining copies of all correspondence to verify that information sharing has occurred. The indicator results are verified by ensuring that the requests for new information are sent out annually.

Monitoring

The TFL Forester ensures that information is requested annually and all correspondence is filed.

The TFL Forester reports on the indicator performance in the annual SFM report.